

Draft Environmental Impact Report

SCH# 2019071059

**Volume 1
Chapters 1 through 10**

**BigBeau Solar Project
By BigBeau Solar, LLC/EDF Renewables Development, Inc.**

**ZCC 13, Map 215
ZCC 44, Map 232
CUP 13, Map 215
CUP 14, Map 215
CUP 15, Map 215
CUP 41, Map 232
CUP 42, Map 232
CUP 43, Map 232
GPA 4, Map 215
SPA 32, Map 232**



**Kern County
Planning and Natural Resources Department
Bakersfield, California**

January 2020

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

Planning
Community Development
Administrative Operations

January 28, 2020

File: ZCC 13, Map 215; ZCC 44, Map 232; CUP 13, Map 215; CUP 14, Map 215; CUP 15, Map 215; CUP 41, Map 232; CUP 42, Map 232; CUP 43, Map 232; GPA 4, Map 215; SPA 32, Map 232

ADDRESSEE LIST (See Distribution List)

Re: Draft Environmental Impact Report for the BigBeau Solar Project by BigBeau Solar, LLC/EDF Renewables, Inc (PP19161)

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 generate a combined total of approximately 128 megawatts (MW) of renewable electrical energy and up to 60 MW of energy storage capacity on approximately 2,735 acres of privately-owned land and 160 acres of land owned by The California State Lands Commission in unincorporated Kern County.

The project site is located approximately 13 miles southwest of the City of Tehachapi and approximately 2 miles northwest of the unincorporated community of Rosamond. The project site is generally bound by Avenue of the Stars to the South, the intersection of 125th Street and Champagne Avenue to the north, 135th Street West to the west and 105th Street West to the east. The site is located in Sections 27, 34 and 35 of Township 10 North, Range 14 West and Sections 2, 3, 4, 9 and 10 of Township 9 North, and Range 14 West in the East San Bernardino Base and Meridian (SBB&M), County of Kern, State of California.

The project proponents are requesting: **(a)** Two (2) Zoning Classification Changes (ZCC) from the existing Zone District PLS RS FPS (Platted Lands-Residential Suburban Combining-Floodplain Secondary Combining) to A FPS (Exclusive Agriculture-Floodplain Secondary Combining) on 66 acres (ZCC 13, Map 215) and from the existing zoning district E (10) RS FPS (Estate) to A FPS on 456.9 acres, E (10) RS GH FPS (Geological Hazard Combining) to A GH FPS on 2.7, E (10) RS MH FPS (Mobilehome Combining) to A FPS on 10.1 acres, E (2 ½) RS FPS to A FPS on 110.9 acres, E (20) RS FPS to A FPS on 630.8 acres, E (20) RS GH FPS to A GH FPS on 9.6 acres, E (5) RS FPS to A FPS on 80.6 acres (ZCC 44, Map 232); **(b)** two (2) Conditional Use Permits, each to allow for the construction and operation of a solar photovoltaic electrical generating facility (Section 19.12.030.G) in an A District (CUP 13, Map 215; CUP 41, Map 232); **(c)** two (2) Conditional Use Permits, each to allow for the construction and operation of a communication tower (Section 19.12.030.F) in an A District (CUP 14, 215; CUP 42, Map 232); **(d)** two (2) Conditional Use Permits, each to allow for the construction and operation of a concrete batch plant (Section 19.12.030.G) in an A District (CUP 15, Map 215; CUP 43, Map 232); **(e)** Amendment to the Circulation Element of the Kern County General Plan to remove sections and midsection line road reservations, as follow: the east half of the Section line between Section 27, T10N, R14W and Section 34, T10N, R14W; the Section line between Section 34, T10N, R14W and Section 3, T9N, R14W; the south half of the Section line between Section 34, T10N, R14W and Section 35, T10N, R14W; the Section line between Section 35, T10N, R14W and Section 2, T9N, R14W; the south half of the north-south mid-section line Section 35, T10N, R14W (General Plan Amendment 4, Map 215); **(f)** Amendment to the Willow Spring Specific Plan to remove sections and midsection line road reservations, as follow: the Section line between Section 4, T9N, R14W and Section 3, T9N, R14W; the north half of the Section line between Section 9, T9N, R14W and Section 10, T9N and R14W; the north half of the north half of the north-south mid-section line of Section 3, T9N, R14W; the north half of the of the north-south mid-section line of Section 10, T9N, R14W; the north half of the north half of the Section line between Section 3, T9N, R14W and Section 2, T9N, R14W; the north half of the north-south mid-section line of Section 2, T9N, R14W (Specific Plan Amendment 32, Map 232); and **(g)** vacation of existing public easements on the project site. The project's permanent facilities would include service roads, a communication tower, communication cables, overhead and underground transmission lines, an electrical switching station, project substations, operations and maintenance facilities, and gen-tie lines.

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 **March 13, 2020, 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) 862-8607 or via email at SmallsT@kerncounty.com.

Sincerely,

Terrance Smalls, Supervising Planner
Advanced Planning Division

GPA 4; ZC 13; CUP 13, Map 215
(EIR 02-19) WO#PP19161
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es 07/16/19

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
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California City Planning Dept
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California City, CA 93515

Delano City Planning Dept
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Delano, CA 93216

City of Maricopa
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Maricopa, CA 93252

City of McFarland
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City of Ridgecrest
100 West California Avenue
Ridgecrest, CA 93555

City of Shafter
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Shafter, CA 93263

City of Taft
Planning & Building
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Taft, CA 93268

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San Luis Obispo, CA 93408

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Santa Barbara, CA 93101

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Ventura County RMA Planning Div
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Ventura, CA 93009-1740

U.S. Bureau of Land Management
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300 South Richmond Road
Ridgecrest, CA 93555

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China Lake, CA 93555

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San Francisco, CA 94105

U.S. Dept of Agriculture/NRCS
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Bakersfield, CA 93309-0711

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Santa Clarita, CA 91383-9321

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Bishop, CA 93514

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State Dept of Conservation
Division of Oil & Gas
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State Dept of Conservation
Office of Land Conservation
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Bakersfield, CA 93309

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Sacramento, CA 94298-0001

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California Regional Water Quality
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State Lands Commission
100 Howe Avenue, Ste 100-South
Sacramento, CA 95825-8202

CalRecycle
Dept of Resources, Recycling, and
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Sacramento, CA 95812

Kern County
Agriculture 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, Interim Fire Chief

Kern County Fire Dept
Cary Wright, Fire Marshall

Kern County Library/Beale
Local History Room

Kern County Library/Beale
Andie Sullivan

Kern County Library
Wanda Kirk/Rosamond Branch
3611 Rosamond Boulevard
Rosamond, CA 93560

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

Rosamond Municipal Advisory Council
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Mojave Town Council
Bill Deaver, President
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Rosemead, CA 91770

Southern California Edison
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Rosemead, CA 91770

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Kern Valley Indian Council
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Kern Valley Indian Council
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San Fernando Band of Mission Indians
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Kelly Group
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Winters, CA 95694

Beyond Coal Campaign/Sierra Club
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Los Angeles, CA 90026

Robert Burgett
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David Walsh
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Tehachapi, CA 93561

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Travis AFB, CA 94535-2729

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

U.S. Army
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Coordinator
Office of Strategic Integration
721 - 19th Street, Room 427
Denver, CO 80202

U.S. Navy
Attn: Steve Chung
Regional Community & Liaison Officer
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San Diego, CA 92132-5190

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Planning Dept.
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Tehachapi, CA 93561

Southern California Edison
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Long Beach, CA 90801

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Water Agency
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Palmdale, CA 93551

Antelope Valley Resource Cons Dist
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Lancaster, CA 93534-3136

DRAFT ENVIRONMENTAL IMPACT REPORT NOTICE OF AVAILABILITY FOR PUBLIC REVIEW

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. 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/>).

A public hearing has been scheduled with the Kern County Planning Commission to receive comments on the document on: **March 26, 2020**, at 7:00 p.m. or soon thereafter, Chambers of the Board of Supervisors, First Floor, Kern County Administrative Center, 1115 Truxtun Avenue, Bakersfield, California

The comment period for this document closes on **March 13, 2020**. Testimony at future public hearings may be limited to those issues raised during the public review period either orally or submitted in writing by 5:00 p.m. the day the comment period closes.

Project Title: BigBeau Solar Project by BigBeau Solar, LLC/EDF Renewables Development, Inc. (PP19161); Zoning Classification Change 13, Map 215; Zoning Classification Change 44, Map 232; Conditional Use Permit 13, Map 215; Conditional Use Permit 14, Map 215; Conditional Use Permit 15, Map 215; Conditional Use Permit 41, Map 232; Conditional Use Permit 42, Map 232; Conditional Use Permit 43, Map 232; General Plan Amendment 4, Map 215; Specific Plan Amendment 32, Map 232.

Project Location: The project site is located approximately 13 miles southwest of the City of Tehachapi and approximately 2 miles northwest of the unincorporated community of Rosamond. The project site is generally bound by Avenue of the Stars to the South, the intersection of 125th Street and Champagne Avenue to the north, 135th Street West to the west and 105th Street West to the east. The site is located in Sections 27, 34 and 35 of Township 10 North, Range 14 West and Sections 2, 3, 4, 9 and 10 of Township 9 North, and Range 14 West in the East San Bernardino Base and Meridian (SBB&M), County of Kern, State of California.

Project Description: The project proponents are requesting: (a) Two (2) Zoning Classification Changes (ZCC) from the existing Zone District PLS RS FPS (Platted Lands-Residential Suburban Combining-Floodplain Secondary Combining) to A FPS (Exclusive Agriculture-Floodplain Secondary Combining) on 66 acres (ZCC 13, Map 215) and from the existing zoning district E (10) RS FPS (Estate) to A FPS on 456.9 acres, E (10) RS GH FPS (Geological Hazard Combining) to A GH FPS on 2.7, E (10) RS MH FPS (Mobilehome Combining) to A FPS on 10.1 acres, E (2 ½) RS FPS to A FPS on 110.9 acres, E (20) RS FPS to A FPS on 630.8 acres, E (20) RS GH FPS to A GH FPS on 9.6 acres, E (5) RS FPS to A FPS on 80.6 acres (ZCC 44, Map 232); (b) two (2) Conditional Use Permits, each to allow for the construction and operation of a solar photovoltaic electrical generating facility (Section 19.12.030.G) in an A District (CUP 13, Map 215; CUP 41, Map 232); (c) two (2) Conditional Use Permits, each to allow for the construction and operation of a communication tower (Section 19.12.030.F) in an A District (CUP 14, 215; CUP 42, Map 232); (d) two (2) Conditional Use Permits, each to allow for the construction and operation of a concrete batch plant (Section 19.12.030.G) in an A District (CUP 15, Map 215; CUP 43, Map 232); (e) Amendment to the Circulation Element of the Kern County General Plan to remove sections and midsection line road reservations, as follow: the east half of the Section line between Section 27, T10N, R14W and Section 34, T10N, R14W; the Section line between Section 34, T10N, R14W and Section 3, T9N, R14W; the south half of the Section line between Section 34, T10N, R14W and Section 35, T10N, R14W; the Section line between Section 35, T10N, R14W and Section 2, T9N, R14W; the south half of the north-south mid-section line Section 35, T10N, R14W (General Plan Amendment 4, Map 215); (f) Amendment to the Willow Spring Specific Plan to remove sections and midsection line road reservations, as follow: the Section line between Section 4, T9N, R14W and Section 3, T9N, R14W; the north half of the Section line between Section 9, T9N, R14W and Section 10, T9N and R14W; the north half of the north half of the north-south mid-section line of Section 3, T9N, R14W; the north half of the of the north-south mid-section line of Section 10, T9N, R14W; the north half of the north half of the Section line between Section 3, T9N, R14W and Section 2, T9N, R14W; the north half of the north-south mid-section line of Section 2, T9N, R14W (Specific Plan Amendment 32, Map 232); and (g) vacation of existing public easements on the project site. The project's permanent facilities would include service roads, a communication tower, communication cables, overhead and underground transmission lines, an electrical switching station, project substations, operations and maintenance facilities, and gen-tie lines.

Anticipated Significant Impacts on Environment: Aesthetics, Air Quality, Biological Resources, and Wildfire

Document can be viewed online at: <https://kernplanning.com/planning/environmental-documents/>

For further information, please contact Terrance Smalls, Supervising Planner 3 (661) 862-8607.

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

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

MOJAVE DESERT NEWS

TJS (1/21/2020)

cc: County Clerk (2) (with fee)
Environmental Status Board
Sierra Club/Kern Kaweah Chapter
LiUNA
Supervisory District No. 2

California Native Plant Society/Kern Chapter
Kern County Archaeological Society
Native American Heritage Pres. Council/Kern County
Center on Race, Poverty and Environment (2)

GPA 4; ZC 13; CUP 13, Map 215
(EIR 02-19) WO #PP19161
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358 102 22 00 5
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358 141 36 00 1
ALVEAR CLAUDIA K TRUST
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358 111 13 00 5
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BALTIMORE MD 21230

358 091 07 00 3
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VERADALE WA 99037-9141

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358 141 32 00 9
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358 010 08 00 5
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358 092 19 00 5
ARUTUNIAN FAMILY TRUST
6326 W 80TH PL
LOS ANGELES CA 90045-1439

358 091 11 00 4
AVENI ANTHONY JOSEPH & JANE
CLAIRE FAMILY TR
10231 LA CANADA WY
SUNLAND CA 91040

474 232 07 00 7
BACON BARBARA M FAMILY TRUST
28128 PACIFIC COAST HY # 193
MALIBU CA 90265

474 154 14 04 4
BAHRAMIAN FRED
458 CALLE DE ARAGON
REDONDO BEACH CA 90277

474 131 12 00 5
BAHRAMIAN FRED & BINA NICKIE
458 CALLE DE ARAGON
REDONDO BEACH CA 90277-6724

358 051 37 00 8
BAILEY JOANNA
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ROSAMOND CA 93560-7293

475 172 17 00 6
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358 092 14 00 0
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OLYMPIA WA 98512

358 102 12 00 6
BATES FAMILY REVOCABLE LIVING
TRUST 1985
12302 SPLIT RAIL PW
AUSTIN TX 78750-1762

358 112 25 00 7
BAUMAN PAUL
1225 N CHEROKEE AV APT 206
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358 061 19 00 9
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1550 BELLOMY ST # 4
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358 051 18 00 3
BEEMAN HARRY LELAND
4448 STUMBERG LN
BATON ROUGE LA 70816-6523

358 051 38 00 1
BENGSTON ERIC T & WESLEY
DUSTIN
PO BOX 56867
SHERMAN OAKS CA 91413-1867

358 141 43 00 1
BENLOULOU SAMY & CORINNE R TR
PO BOX 15205
NORTH HOLLYWOOD CA 91615-5205

358 061 13 00 1
BENOIST LOU E TR
350 CAROLINA AV APT 407D
WINTER PARK FL 32789-3176

358 061 15 00 7
BISCHETSRIEDER FAMILY REV TR
455 PINEHURST CT
FULLERTON CA 92835-2733

358 102 05 00 6
BISCHETSRIEDER JON W
3593 MEDINA RD
MEDINA OH 44256-8182

475 172 14 00 7
BLAIR SURVIVORS TRUST
100 THORNDALE DR # 362
SAN RAFAEL CA 94903-4523

474 232 34 00 5
BLAKE BOBBY & THOMESINA E
756 MAIN RD
JOHNS ISLAND SC 29455-3418

358 240 08 00 2
BLOOMFIELD FAMILY TRUST
31514 RUSTIC OAK DR
WESTLAKE VILLAG CA 91361-4757

358 101 20 00 2
BLOOMFIELD PAUL C & SHARON L
1643 COLBY DR
FOREST VA 24551-2198

358 240 06 00 6
BLOOMFIELD RONALD TRUST
31514 RUSTIC OAK DR
WESTLAKE VILLAG CA 91361-4757

474 120 11 00 2
BLYDENBURG ALAN C & DEBRA L
PO BOX 56867
SHERMAN OAKS CA 91413-1867

358 360 16 00 0
BOBADILLA JEREMY GEORGE &
TING TING
PO BOX 56867
SHERMAN OAKS CA 91413-1867

358 081 09 00 6
BORLAND JAMES A
200 RUSSELL WOODS DR
LYNCHBURG VA 24502-3574

358 360 03 00 2
BOUTROS MAGED
6334 W AVENUE J2
LANCASTER CA 93534

475 190 21 00 9
BOYER ROBERT P & NANCY J
3397 SUGAR LEO RD
ST GEORGE UT 84790

474 111 21 00 5
BOYLE NORA LEE
717 HOLTBY RD
BAKERSFIELD CA 93304-1935

358 101 08 00 8
BRANDEL CHARLES FELIX & CINDY
LEE REV TR
2057 W AVE M8
PALMDALE CA 93551-1390

358 061 33 00 9
BRIDGER ELAINE TR
10609 NE 197TH ST
BOTHELL WA 98011-2426

474 141 02 00 9
BROKAW RICHARD & ALTAGRACIA
14000 N 94TH ST U 2162
SCOTTSDALE AZ 85260-7791

358 360 13 00 1
BROWN LINDA
23761 WAGON WHEEL CI
ATHENS IL 62613

474 142 14 00 1
BULBUK JOHN
20 OLD KEENE RD
ATHOL MA 01331

358 111 21 00 8
BUNDALIAN RANDY B
626 BOX COVE PL
DIAMOND BAR CA 97765

358 081 12 00 4
BURDULLIS JOSEPH E & CORINNE
LIVING TR
3633 BELMONT LN
OXNARD CA 93036

358 062 38 00 1
BURSIK GEORGE B TR
113 W MINARETS
PINEDALE CA 93650

358 062 44 00 8
BUTALLA FAMILY LEGACY TRUST
28809 E 343RD ST
ARCHIE MO 64725-3723

474 154 22 04 7
CAMIRE JOHN B & SYLVIA J
17112 CANDLEWOOD RD
APPLE VALLEY CA 92307-1104

358 091 06 00 0
CARLSON CHILDRENS TR
25612 GOLDENSPRING DR
DANA POINT CA 92629-1537

358 102 19 00 7
CARROLL JOHN E & MARIE C
5095 GOBER RD
BEAUMONT TX 77708-4812

358 061 24 00 3
CASTEN JOSE A & ALIW S
26642 EMERALD AV
MORENO VALLEY CA 92555-3831

358 061 02 00 9
CERVANTES ELMER F & PILAR A
110 BAUAN
*

358 061 11 00 5 ABDELHAK MAHMOUD P O BOX 12424 MARINA DEL REY CA 90295	358 102 32 00 4 CHAN KUN JEN & JULIE S C 1750 CHAPEL HILL DR WALNUT CA 91789-3605	358 061 26 00 9 CHAVEZ CHRISTOPHER PETER & MARGARITA F 1034 VALLEJO AV SIMI VALLEY CA 93065-4966
358 082 30 00 3 CHAVEZ RODOLFO & MARIA 7062 VICTORIA AV HIGHLAND CA 92364	358 350 14 00 1 CHEN KAI JUN & TSAI SU PI PO BOX 56867 SHERMAN OAKS CA 91413-1867	474 154 16 00 4 CHEN MEI 16402 NEWASA LN ACCOKEEK MD 20607
475 172 05 00 1 CHING AMELIA YEE MAY 10037 SPANISH OAK CT CUPERTINO CA 95014	474 231 31 00 9 CHING JAMES G 5597 LA SENDAS CT LAS VEGAS NV 89122-4764	474 231 30 00 6 CHING THOMAS A 1720 HUNA ST APT 402 HONOLULU HI 96817-2462
475 190 22 00 2 CHIRINOS FRANCO & MARINA 12210 COLIMA RD WHITTIER CA 90604-3023	475 190 20 00 6 CHO NAM KWON & HYUNG KWON 2613 SW 120TH ST OKLAHOMA CITY OK 73170	358 062 18 00 3 CHOI FAMILY LIVING TRUST 907 N ROXBURY DR BEVERLY HILLS CA 90210
358 092 03 00 8 COLICH MILAN T 1422 MONTE GRANDE PL PACIFIC PALISAD CA 90272-1913	358 092 13 00 7 COLMAN CYNTHIA L 420 MONTEREY LN APT 2D SAN CLEMENTE CA 92672-5335	358 062 23 00 7 CONFORTI LOUIS JOSEPH IRR TRUST 11511 DAVENPORT RD LOS ALAMITOS CA 90720-3831
474 154 15 04 7 CONNELL LIVING TRUST 7860 BENSON HW U 147 TUCSON AZ 85756-8337	474 232 14 00 7 CONORA REYNALDO P O BOX 344 WEST COVINA CA 91793	475 172 22 00 0 CONORA REYNALDO PO BOX 344 WEST COVINA CA 91793
358 062 07 00 1 COOLEY REGINA FRANCOISE 22184 SILVER SPUR RD PALO CEDRO CA 96073	358 141 09 00 3 COON GEORGIA B FAMILY TR 945 HOLCOMB RD MONTAGUE CA 96064-9235	358 082 24 00 6 CORDOVA F & B TR 2429 ABADAJEO LA VERNE CA 91750-1138
358 051 13 00 8 CORENO LAND HOLDINGS LLC PO BOX 304 HERMOSA BEACH CA 90254	358 051 42 00 2 CORENO LAND HOLDINGS LLC P O BOX 304 HERMOSA BEACH CA 90254	358 081 11 00 1 CORNEILL WILLIAM A & LINDA L TRS 216 VILLA CREEK PW CANTON GA 30114-7013
358 360 11 00 5 CORONADO RAUL 1159 BAY VIEW WILMINGTON CA 90744	358 062 34 00 9 CP LAND HOLDING LLC PO BOX 1413 BEND OR 97709-1413	358 061 23 00 0 CP LAND HOLDINGS LLC PO BOX 1413 BEND OR 97709-1413
474 141 11 00 5 CRUZ JUAN JOSE 421 W 16TH ST SAN PEDRO CA 90731-4815	358 062 36 00 5 CULLA VIRGINIA A TR PO BOX 56867 SHERMAN OAKS CA 91413-1867	358 051 08 00 4 CUMMINGS CHARLES D & LINDA G HCR 3 BOX 226 ROSAMOND CA 93560

358 051 14 00 1
DAGEFORDE TRUST
16804 NE 10TH WY
VANCOUVER WA 98684-6424

358 102 15 00 5
DANIEL BONNIE JEAN
38 S PACA ST U 601
BALTIMORE MD 21201

358 010 06 00 9
DANNEKER MICHAEL J II TRUST
1732 LA PAZ RD
ALTADENA CA 91001-3317

358 141 21 00 7
DAUSEL LEO L FAMILY TRUST
1717 S PACIFIC ST
OCEANSIDE CA 92054-5849

358 091 09 00 9
DAVIS FLORENCE E TR
1009 AYHENS AV
SIMI VALLEY CA 93065

358 062 04 00 2
DE LA CRUZ STEVEN OSVALDO
22221 W HADLEY ST
BUCKEYE AZ 85326-7896

358 082 28 00 8
DE LOUGHERY JOHN J
14558 DYER ST
SYLMAR CA 91342-5138

474 141 13 00 1
DE NARDY D ERNEST
6201 LAWN AV UPST
CLEVELAND OH 44102-4304

474 232 05 00 1
DEANDEN LLC
2896 WOODFLOWER ST
THOUSAND OAKS CA 91362-1173

358 102 13 00 9
DEL SOL PROPERTIES
12121 WILSHIRE BL STE 600
LOS ANGELES CA 90025

358 091 33 00 8 **DUP**
DEL SOL PROPERTIES INC
12121 WILSHIRE BL STE 600
LOS ANGELES CA 90025

358 102 10 00 0
DELOS SANTOS DOROTEO & LOLITA
9400 FAIRWAY VIEW PL # 2201
RANCHO CUCAMONG CA 91730

358 081 06 00 7
DERIT MARIA MELANY
36727 BRADFORD RD
STERLING AK 99672-9400

358 082 12 00 1
DESIANO FAMILY TRUST
22931 CALLE AZORIN
MISSION VIEJO CA 92692-1423

358 141 35 00 8
DICK JAMES E
107 CEDAR BLUFF DR
FAIRMONT MN 56031

358 092 09 00 6
DIZON REGINALD E & DON E
1963 MARQUIS CT
CHULA VISTA CA 91913

358 112 05 00 9
DOMANTAY PETER D & MARILOU M
29744 SAGUARO ST
CASTAIC CA 91384-3567

358 112 19 00 0
DOVARRO SERGIO
9738 DOWNEY SANFORD BRIDG RD
DOWNEY CA 90240-3059

474 132 14 00 8
DRUSKIN SHELLEY F TRUST
7190 CALABRIA CT # A
SAN DIEGO CA 92122

474 142 11 00 2
DULAY JUDITH W
PO BOX 56867
SHERMAN OAKS CA 91413-1867

358 240 34 00 7
DUSZYNKSI DARRYL D
1271 W NORBERRY
LANCASTER CA 93534

474 142 09 00 7 **DUP**
DYAS ROBERT K & KATHRYN M
P O BOX 687
ROSAMOND CA 93560

474 154 20 00 5
DYAS ROBERT KEITH & KATHRYN M
P O BOX 687
ROSAMOND CA 93560

474 231 02 00 5 **DUP**
DYAS ROBERT KEITH & KATHRYN
MARIE
P O BOX 687
ROSAMOND CA 93560

358 051 39 00 4
EASTMAN WILLIAM
1330 LELAND WY
ESCONDIDO CA 92026-3321

474 132 04 00 9
EDF RENEWABLE DEV INC
15445 INNOVATION DR
SAN DIEGO CA 92128-3432

474 100 01 00 7 **DUP**
EDF RENEWABLE LAND HOLDINGS
INC
15445 INNOVATION DR
SAN DIEGO CA 92128-3432

358 061 06 00 1 **DUP**
EDF RENEWABLES DEV INC
15445 INNOVATION DR
SAN DIEGO CA 92128-3432

358 061 12 00 8 **DUP**
EDF RENEWABLES DEVELOPMENT
INC
15445 INNOVATION DR
SAN DIEGO CA 92128-3432

358 091 20 00 0
EDMAN CHARLES W & ANNA LAYNE
P O BOX 52
LLANO CA 93544

358 081 23 00 6
ELLGAARD SHEILA M TRUST
2130 SHERWOOD DR
CAMBRIA CA 93428-4412

474 132 03 00 6
EMERSON PATRICIA A TRUST
190 SIERRA CT STE C4
PALMDALE CA 93550-7609

474 232 19 00 2
ENGBLOM DERRICK PATRICK
2061 MAIDEN LN
ALTADENA CA 91001-3109

358 062 19 00 6
ENGGASSER ERIC LEO
35 W MAIN ST STE B
VENTURA CA 93001-4528

474 142 19 00 6
EQUITY TR CO CUSTDN FBO NELSON
DIANE IRA
PO BOX 56867
SHERMAN OAKS CA 91413-6867

474 142 10 00 9 **DUP**
EQUITY TR CO CUSTDN FLYNN
JENNIFER FBO
PO BOX 56867
SHERMAN OAKS CA 91413-1867

474 232 18 00 9 **DUP**
EQUITY TRUST COMPANY
PO BOX 56867
SHERMAN OAKS CA 91413-1867

358 360 04 00 5
ESCOBAR RAMIRO F
3255 E AVENUE R SP 197
PALMDALE CA 93550-2419

358 240 28 00 0
ESTRADA DORIS DIANE LIVING
TRUST
37321 PASEO VIOLETA
MURRIETA CA 92563-3704

358 092 15 00 3
ESTRELLER ROSALIND TR & TRS ET
AL
3307 LARGA AV
LOS ANGELES CA 90039

358 051 17 00 0
EVERETTE SUZANNE E
4525 DOWEL AV
PALMDALE CA 93552-3719

358 010 09 03 5
EYHERABIDE LAND CO LLC
5284 KENT DR
BAKERSFIELD CA 93306-3908

358 112 26 00 0
FAIRCHILD TRUST
PO BOX 566
LANCASTER CA 93584-0566

475 171 04 00 1
FARACE LIVING TRUST
233 CHEROKEE TL
HINESVILLE GA 31313

358 101 02 00 0
FICKLIN KENNETH A & JO ANNE
PO BOX 994785
REDDING CA 96099-4785

358 010 14 00 2
FIRST SOLAR LAND HOLDING CO
LLC
135 MAIN ST FLR 6
SAN FRANCISCO CA 94105-8113

358 081 18 00 2
FIXLER MAGE S TRUST
2856 PIERPOINT BL
VENTURA CA 93001

358 092 01 00 2
FLORA ROBERT L
401 ARRINGTON AV
MAYSVILLE KY 41056-1730

358 092 12 00 4
FONE ALAN JR
12213 W AVENUE OF THE STARS
ROSAMOND CA 93560-9089

474 131 28 00 2
FONG BEVERLY A
1088 ALTON WY
SALT LAKE CTY UT 84108

474 131 21 00 1
FONG BRYAN & KIM FAMILY TRUST
1836 SUNNYSIDE AV
SALT LAKE CTY UT 84108-1345

474 131 20 00 8
FONG CHESTER K M REV LIV TRUST
2525 KEKUANONI ST
HONOLULU HI 96813

474 231 37 00 7 **DUP**
FONG CHESTER K M TRUST
2525 KEKUANONI ST
HONOLULU HI 96813-1120

474 131 22 00 4
FONG LEONARD T W
151 ULUNI AV
HONOLULU HI 96815

358 082 32 00 9
FRAKES CARL FAMILY TR
1274 WEST AVENUE H-12
LANCASTER CA 93534

358 081 22 00 3
FRASER RICHARD E
8923 RATHBURN
NORTHRIDGE CA 91325

474 232 27 00 5
FREEBAIRN SMITH RODERICK T TR
880 LOMBARD ST
SAN FRANCISCO CA 94133-2216

358 010 13 00 9
FS LAND HOLDING CO LLC
350 W WASHINGTON ST STE 600
TEMPE AZ 85281-1496

358 010 17 00 1
FS LAND HOLDING CO LLC
135 MAIN ST FLR 6
SAN FRANCISCO CA 94105-8113

358 101 01 00 7
GAFY INVS LLC
5832 OCEAN TERRACE DR
RANCHO PALOS VE CA 90275-5759

358 101 05 00 9
GAFY INVS LLC
PO BOX 10253
TORRANCE CA 90505-1153

358 141 16 00 3
GAFY INVS LLC
458 CALLE DE ARAGON
REDONDO BEACH CA 90277-6724

474 231 28 00 1
GAFY INVS LLC
PO BOX 10253
LAHAINA HI 90505 **DUP**

358 112 04 01 5
GALANTE JOSEPHINE P
1065 GARRIDO DR
CAMARILLO CA 93010-1027

358 061 47 00 0
GAMAUNT JULIAN ROGER & LINDA
MARIE
13032 NINA PL
GARDEN GROVE CA 92643

358 082 08 00 0
GARCIA FELIX & FELIPA R
14500 VAN NUYS BL # 29
PANORAMA CITY CA 91402

474 120 33 00 6
GARCIA GABRIEL & ESTELA
14819 FIRMONA AV
LAWNDALE CA 90260-1242

358 141 34 00 5
GARCIA SHARON LOUISE
1805 N CARSON # 488
CARSON CITY NV 89701

358 112 09 00 1
GARNER SHIRLEY REVOCABLE
LIVING TRUST
950 OAKHURST WY
STOCKTON CA 95209-2029

474 154 21 00 8
GARVEY RICHARD
29160 HEATHERCLIFF RD U 4236
MALIBU CA 90264-1018

358 092 24 00 9
GASTELUM ROSARIO & ROSALIE
P O BOX 1285
ROSAMOND CA 93560

475 172 31 00 6
GATCHALIAN GUY PALAGANAS &
VILMA
38632 PUERTA AV
PALMDALE CA 93550-4137

358 082 16 00 3
GERHARDT LOUIS B
74007 PLAYA VISTA
29 PALMS CA 92277

475 171 22 00 3
GGF PROP LLC
1702 ROBERTSON BL
LOS ANGELES CA 90035-4316

474 141 07 00 4
GILICA VICTOR JR ET AL
17813 AVIS AV
TORRANCE CA 90504

358 112 32 00 7
GIVEN GARY RICHARD & ALICE
MILAN
1 INDIANOLA CIRCLE
THE COLONY TX 75058

474 232 04 00 8
GOBOURNE WANDA M
2305 CHAPEL HILL CI
STOCKTON CA 95209-4009

358 141 12 00 1
GOGGIN MILLER FAMILY TRUST
270 ORO DR
ARROYO GRANDE CA 93420-2840

474 142 17 00 0
GOLTSCHE NATALIE B
100 S DOHENY DR APT 705
LOS ANGELES CA 90048-2992

474 142 20 00 8
GOODMAN ROGER C
4933 PINEHURST RD
ANDERSON CA 96007-9172

358 141 13 00 4
GORDON MARIE H
633 RAMONA AV SP 5
LOS OSOS CA 93402-5106

475 172 20 00 4
GORJIYAN FARAHNAZ
4004 PACHECO DR
SHERMAN OAKS CA 91403-4421

358 102 39 00 5
GREENE ALBERT R JR & SANDRA P
18 SPRING GREEN RD
LINCOLN RI 02865-3718

475 172 34 00 5
GRINDAHL DAVID A
655 NORTH RD
SN BERNARDINO CA 92404

358 010 09 07 1
GUERRANT FMLY TR
28518 BURROUGH NO RD
TOLLHOUSE CA 93667-9727

474 154 24 00 7
HAGEN DEBORAH J
1341 GOLF COURSE RD
HAMILTON MT 59840-9234

358 062 42 00 2
HAMILTON ALETHIA SKY
2025 SONJA DR SP 70
ROSAMOND CA 93560-6145

358 112 07 00 5
HAMLIN LINDA LUCIE
227 STEDMAN PL
MONROVIA CA 91016-2168

358 101 19 02 8
HANNA GEORGE A LIVING TRUST
P O BOX 522
HAWTHORNE CA 90251

358 102 16 00 8
HANWRIGHT TRUST
PO BOX 0700
ANAHOLA HI 96703-0700

358 112 15 00 8
HARDING DONALD
815 JAVA ST # 8
INGLEWOOD CA 90301

358 091 30 01 8
HEIDENREICH AILEEN M REV LIV TR
6361 SE WALINA CT
SALEM OR 97301

474 141 05 00 8
HENEGBRY HOLLY S REV TR
30031 MATISSE DR
RANCHO PALOS VE CA 90275-5729

358 360 09 00 0
HERNANDEZ RENAN & NORMA
38355 CAMPOS DR
PALMDALE CA 93551-4259

358 112 12 00 9
HICKMAN LAURA
22293 BUENAVENTURA ST
WOODLAND HILLS CA 91364

358 091 23 00 9
HODSDON STEVE W & DEBRA J
1410 COPE DR
PARIS TX 75462-5505

358 061 01 00 6
HOFFMAN DONALD & SUSAN ET AL
PO BOX 370
ROSAMOND CA 93560-0370

358 082 23 00 3
HORN ENTERPRISES
3690 W MESA AV
FRESNO CA 93711-6567

474 232 26 00 2
HOWE STEVEN A
100 RIVER RDG
ELLIJAY GA 30536

358 092 10 00 8
HSIEH JACK Y
PO BOX 37545
RALEIGH NC 27627-7545

358 240 29 00 3
HULL LYLE J & JANET M
3056 CONSTITUTION DR
W VALLEY CITY UT 84119

358 102 28 00 3
IGNACIO ISIDRO D TRUST
3114 LA CORONA AV
ALTADENA CA 91001-4335

358 061 14 00 4
INVESTMENT LAND NETWORK LLC
3142 PACIFIC COAST HW STE 200
TORRANCE CA 90505-6750

358 082 11 00 8
JACKS ALFRED H & VIRGINIA
8424 N NEVADA APT 291
SPOKANE WA 99208

475 172 03 00 5
JACKSON JAMES E & NANCY O
1710 NW 88TH WY
PLANTATION FL 33322-4437

358 141 41 00 5
JACKSON LOIS I
P O BOX 308011
CLEVELAND OH 44130

358 010 01 00 4
JAVADIAN TR
3108 PADDINGTON RD
GLENDALE CA 91206-1355

358 141 44 00 4
JAVIER ELPIDIO M FMLY TR
842 EAST AVENUE J-11
LANCASTER CA 93535

358 240 31 00 8
JENKINS GENEVA
3116 GINGERWOOD LN
LANCASTER CA 93536

358 091 32 00 5
JOAQUIN FAMILY TRUST
20701 WOOD AV
TORRANCE CA 90503

358 092 26 00 5
JONES DELMER G & PACITA R
MAGTULIS REV TR
843 ROXANNE DR
HEMET CA 92543

358 061 25 00 6
JORAJURIA ETIENNE & ALICE G REV
TR
662 BARBOUR DR
REDWOOD CY CA 94062

358 091 08 00 6
JULIAN DELORES D TR
5554 ROSAMOND BL
ROSAMOND CA 93560

474 232 11 00 8
KALRA HIRA LAL & NEETA
5936 LEMP AV
NO HOLLYWOOD CA 91601

358 091 17 00 2
KAUFMANN MARGARET A TRUST
25 PALAMINO LN
BOULDER CO 80302-9432

358 112 01 00 7
KIM HYUN HEE LIV TR
301 STREAMWOOD
IRVINE CA 92620-1967

358 051 43 00 5
KIMARI HENRY N & KELLY A
843 MOUNTAIN VIEW RD
CORDOVA AL 35550-4019

358 061 42 00 5
KING CRAIG
1555 RIVER PARK DR STE 108
SACRAMENTO CA 95815-4666

475 171 05 00 4
KIRCHHOFF JAMES
26228 GLENDON LN
LAGUNA HILLS CA 92653-8216

358 102 49 00 4
KLASSEN ORPHA MAE
703 W HERBERT AV
REEDLEY CA 93654-3941

358 102 45 00 2
KLINGER CHANDIS L & VIOLET M
FAM PROTE TRUST
141 AMERICAN CHESTNUT LN
MIDDLEBURG PA 17842

358 102 03 00 0
KNOKEY FAMILY TRUST
18811 TRIBUNE ST
NORTHRIDGE CA 91325

358 112 24 00 4
KNOWLES BROOKE LIVING TRUST
266 SAINT JOSEPH AV
LONG BEACH CA 90803-1720

358 081 08 00 3
KNOX PATRICIA JANE
368 E SURFSIDE DR
PORT HUENEME CA 93041-3347

475 172 01 00 9
KOEHLER FAM TR
1253 W WHITEHALL DR
MERIDIAN ID 83642-7320

358 061 08 01 6
KOHL DAVID ALLEN TRUST
PO BOX 252069
LOS ANGELES CA 90025-8947

358 062 21 00 1
KREUTZER ERIK ALEXANDER
2 POLO FIELD LN
DENVER CO 80209

358 062 12 00 5
KRIGSFELD VICTORIA
2904 BOTTLEBRUSH DR
LOS ANGELES CA 90077

358 082 03 00 5
KROICK JAMES
PO BOX 1645
BOULDER CO 80306-1645

358 081 04 00 1
LA MADRID ELSA
11530 SHERIDAN ST
PEMBROKE PINES FL 33026-1428

474 231 29 00 4
LAND INV NETWORK LLC
3142 PACIFIC COAST HW STE 200
TORRANCE CA 90505-6750

358 360 01 00 6 **DUP**
LAND INVESTMENT NETWORK LLC
3142 PACIFIC COAST HW STE 200
TORRANCE CA 90505-6750

358 101 13 00 2 **DUP**
LAND INVESTMENTS NETWORK LLC
3142 PACIFIC COAST HW STE 200
TORRANCE CA 90505-6750

358 061 20 00 1
LARRANAGA FERNAND III
PO BOX 1604
ALTURAS CA 96101-1604

358 112 10 01 2
LAUGHLIN MILLER MARTHA J
4534 MORSE AV
STUDIO CITY CA 91604

358 141 45 00 7
LE OZARK H
4609 LA CRESCENT LP
SAN JOSE CA 95136-2686

358 112 16 00 1
LEE FAMILY TRUST
289 CAMBRIDGE DR
GIBSONIA PA 15044-7520

358 081 02 01 4
LEE JUNG H
25910 TWAIN PL
STEVENSON RANCH CA 91381-1104

358 082 06 00 4
LEE STEVE H
401 S KINGSLEY DR APT 114
LOS ANGELES CA 90020-3208

474 132 05 00 2
LEE YOUNG JOO & SONG YOUNG
MIN
3911 E LONG DR
TUCSON AZ 85718-8305

358 112 06 01 1
LEUNG BELINDA KATALINE
P O BOX 31135
SEATTLE WA 98103-1135

474 131 09 01 6
LIM SUNG S
4170 ALAMO ST
SIMI VALLEY CA 93063-2332

358 081 16 00 6
LINVILLE BETTY
4111 ALLOTT AV
SHERMAN OAKS CA 91423

474 231 05 00 4
LIVING ROCK COMMUN BAPT
609 DEEP VALLEY DR STE 200
ROLLING HILLS E CA 90274-3614

358 111 05 00 2
LOUNDERMON JOYCE M B
3557 MORNING STAR PL
LAUREL MD 20724

358 061 43 00 8
LOWINGER ANDREW & IRENE TRUST
5278 S GENEVA ST
ENGLEWOOD CO 80111-6225

358 061 44 00 1
LOWINGER I CALIFORNIA L P
5278 S GENEVA ST
ENGLEWOOD CO 80111-6225

358 081 15 00 3
LP EQUITY RESOURCES II INC
23901 CALABASAS RD # 2080
CALABASAS CA 91302

475 171 03 00 8
LUTAP TRINH FAMILY TRUST
6781 MEADOW VISTA CT
SAN JOSE CA 95135-1676

474 132 07 00 8
LY YANN T & CHAU FANG S
19533 VALERIO ST
RESEDA CA 91335

358 240 32 00 1
LYNCH PATRICIA L SURVIVORS
TRUST
1222 30TH ST
BAKERSFIELD CA 93301-2302

475 172 15 00 0
MACK PATRICIA B ESTATE
405 E 51ST ST APT 1F
NEW YORK NY 10022-6479

358 102 51 00 9
MAHAFFY WILLIAM H & ELEANOR M
35 N LAKEVIEW DR
WILLIAMS AZ 86046

358 091 31 00 2
MANALO HONORATO C & LOURDES
508 GEORGE ST
WINTER SPRINGS FL 32708

358 102 21 00 2
MAPANAO ADOLFO F & BELLA M
3928 PERIDOT PL
VIRGINIA BEACH VA 23456

358 081 07 00 0
MARACHA ELENITA V
7652 HARMONY OAKS WY
SACRAMENTO CA 95828

358 082 04 00 8
MARTIN JOHN A & GAIL R TRUST
552 DUNES ST
MORRO BAY CA 93442-1902

474 232 09 00 3
MARTIN LIVING TRUST
PO BOX 222 362
CARMEL CA 93922

475 172 12 00 1 **DUP**
MARTIN LIVING TRUST
PO BOX 222362
CARMEL CA 93922

358 101 07 00 5
MARTIN PAMELA A
21160 N DUNCAN DR
MARICOPA AZ 85138-2314

358 062 33 00 6
MARTINEZ JAVIER & MARILU
619 S PINE DR
FULLERTON CA 92833

474 120 36 00 5
MASULLA LEO G
576 NOKES RD
LEBANON TN 37090-1037

474 141 06 00 1
MATHIS JOE M
653 COUNTY ROAD 938
BROOKLAND AR 72417-8672

474 154 06 02 3
MAUCH C KIM
16621 ADLON RD
ENCINO CA 91436

474 141 12 00 8
MAWAD ALBERT & LAURICE
MAWAD TRUST
16501 MULHOLLAND DR
LOS ANGELES CA 90048

358 062 41 00 9
MAYNARD CHAD A & CARLA
4627 GREENMEADOW RD
LONG BEACH CA 90808

358 091 02 00 8
MC CANN BRUCE TRUST
60 BRYCE CY
ALISO VIEJO CA 92656-8037

358 112 29 00 9
MC CARTY ISABEL
1841 WILLOW TL
LAS VEGAS NV 89108

358 102 40 00 7
MC ELWAIN SHERMAN J & DIANE J
PO BOX 4
BIBLE SCHOOL PA NY 13737-0004

358 051 10 00 9
MC INTOSH TED A
3176 CURRY ST
EAST LIVERPOOL OH 43920

358 102 37 00 9
MC LAIN ERIC R & LANA G
P O BOX 308011
CLEVELAND OH 44130

358 062 05 00 5
MC NEARNEY PARRISH MAUREEN K
8425 COUNTY ROAD 206
GRANDVIEW TX 76050-3639

358 112 11 00 6
MC PHERSON LARRY
1502 CLIPPER CT
ROSEVILLE CA 95661-5756

358 061 16 00 0
MC PHILMY REDMOND H
114 MARBLE CANYON DR
FOLSOM CA 95630-7113

358 112 02 01 9
MC QUILLAN JAMES
5448 W ELKHORN RD
RATHDRUM ID 83858-7814

358 112 31 00 4
MEGGS ROBERT & SYLVIA
REVOCABLE TRUST
13940 W MEEKER BL STE 115
SUN CITY WEST AZ 85375

358 102 35 00 3
MEIER ARTHUR C II & AMY M
776 CORNELIA DR
HUNTSVILLE AL 35802

358 102 33 00 7
MEIER FRANK L & LOIS K
9209 NE PALM BEACH
ALBUQUERQUE NM 87111

358 360 10 00 2
MENDOZA JOSEPH B & CECIL P
28806 BAY HEIGHTS RD
HAYWARD CA 94542-2164

475 172 21 00 7
MERRILL SUZANNE LIVING TRUST
525 S FLAGLER DR # 10B
W PALM BEACH FL 33401-5924

358 082 10 00 5
MEZA FAMILY TR
5107 AVENIDA DESPACIO
LAGUNA WOODS CA 92637-1807

358 141 08 00 0
MISIPEKA FIAIGOA
PO BOX 14262
TORRANCE CA 90503-8262

358 141 11 00 8
MONGEAU FAMILY REVOCABLE
TRUST
9725 WHITELAND ST
PICO RIVERA CA 90660-5746

358 061 22 00 7
MONTGOMERY JULIANNE
3740 N TANURI DR
TUCSON AZ 85750-1938

358 081 13 00 7
MONTOKA FILBERTO & ROSARIO
P O BOX 1504
MONTEBELLO CA 90640

358 081 30 00 6
MOONEY CAROLYN ANN REV TR
950 WOODLAND AV SP 19
OJAI CA 93023-4317

358 061 27 00 2
MOORE MARVIN L & MARION A
P O BOX 432
MULDROW OK 74948-0432

474 132 01 00 0
MORGAN SETH JAMES EGST TRUST
5832 IRIS CI
LA PALMA CA 90623-1854

475 171 15 00 3
MORRIS BERNARD
8421 BYRD AV
INGLEWOOD CA 90305

474 232 08 00 0
MORTON ALVA & MARGIE A TRUST
5377 E GRANT AV
FRESNO CA 93727-3209

358 111 04 00 9
MUNOZ FAMILY TRUST
1633 BAXTER ST
LOS ANGELES CA 90026-1931

474 231 33 00 5
NASSER MITCHELL A & VICTORIA
7450 SUNNINGDALE WY
GILROY CA 95020-3073

358 240 35 00 0
NAZARI RAYMOND R
10333 MT GLEASON AV
SUNLAND CA 91040-3120

474 120 20 00 8
NEILSON MERLYN R TR
2204 MANHATTAN BEACH BL
REDONDO BEACH CA 90278-1203

474 141 10 00 2
NELSON DONNA Y REV LIV TR
1214 SOUTH MOHAWK DR
SANTA ANA CA 92704

474 231 27 00 8
NEWKIRK FLORENCE H REV TR
14558 DYER ST
SYLMAR CA 91342-5138

358 141 30 00 3
NG MICHAEL & NG TR
1022 ODDSTAD BL
PACIFICA CA 94044

474 232 22 00 0
NGUYEN HUY & DO KIM
14802 MAYTEN AV
IRVINE CA 92606

474 153 26 00 6
NGUYEN KIM THANH
3090 JOSHUA TREE CI
STOCKTON CA 95209

358 141 46 00 0
NGUYEN TUAN & LE FAMILY TRUST
5 PLAZA LUCERNA
LAKE ELSINORE CA 92532-0137

358 141 40 00 2
NICHOLAS EVERETT E JR
5 S ALLEN BEND PT
DECATUR IL 62521-5476

358 081 10 00 8
NICKERSON FAMILY TR
1300 FLOYD HAMPTON RD
CROWLEY TX 76036-4683

358 141 25 00 9
NISHIMOTO FAMILY TR
17832 SO THORNLAKE AV
ARTESIA CA 90701

475 171 08 00 3
NORTHERN LEGACY
3504 GRANDI CI
STOCKTON CA 95209

474 111 23 00 1
NUNAG FAMILY TRUST
1056 PARK MEADOWS RD
CHULA VISTA CA 91915

474 131 27 00 9
NUNLEY DEANNA
805 18TH AV
SALT LAKE CITY UT 87103

358 092 17 00 9
OAK INVS LLC
P O BOX 2016
BEVERLY HILLS CA 90213

358 111 18 00 0
OBIETA HELEN D
P O BOX 32881
SAN JOSE CA 95152

358 102 31 00 1
OLIVA FAMILY TR
187 BAYSIDE DR
PALM COAST FL 32137-8818

474 231 14 00 0
OLSON HAROLD
1242 STATE AV PMB
MARYSVILLE WA 98270-3672

358 082 20 00 4
PALM HORIZON
4640 DUNAS LN
TARZANA CA 91356-4602

358 141 28 00 8
PAREJA MONICA J REVOCABLE
TRUST
704 RIO CONCHO TL
MCKINNEY TX 75071-3566

474 153 01 00 3
PATEL KIRAN KUMAR J
7997 FERRARI WY
WINDSOR CA 95492

474 153 27 00 9
PATEL KIRANKUMAR JAYANTILAL
& MINAL
7997 FERRARI WY
WINDSOR CA 95492

474 154 17 00 7
PAULEY JOSPEH L & BEVERLY M
REV TR
P O BOX 57
ROSAMOND CA 93560

358 081 20 00 7
PAULOVICH NICHIKAS & JUANITA L
FAMILY TRUST
1642 E JASMINE ST
CASA GRANDE AZ 85122-6049

358 102 18 00 4
PEARSON VINCENT & MARY ANNE
171 BRANNAN WY
RENO NV 89511-9159

358 062 22 00 4
PEEBLER GERALD B & HARRIETTE I
TRUST
13926 LA MIRADA BL
LA MIRADA CA 90638-3198

358 061 05 00 8
PENALES ROCHEL SOTTO
5021 MONTEZUMA ST
LOS ANGELES CA 90042-3228

358 062 37 00 8
PEREZ JOSE
39543 DUNBAR ST
PALMDALE CA 93551

474 154 25 00 0
PERKINS FREDERIC B REV TRUST
PO BOX 1984
BRENHAM TX 77834-1984

358 082 18 00 9
PERONA EDGARDO P EST & ESTER B
544 CARMEL MESA DR
HENDERSON NV 89012

358 360 02 00 9
PERRY RALPH A & IDA I
4942 STUART DR
SANTA MARIA CA 93455

358 112 28 00 6
PERUZZI CLAUDIO A & ANTOINETTE
9222 GALLATIN RD
DOWNEY CA 90240-2969

474 120 13 00 8
PETERSON WESLEY A
P O BOX 2249
MESA AZ 85214

358 091 18 00 5
PEZZNER JOSEPH SURVIVORS TRUST
8860 CORBIN AV # 304
NORTHRIDGE CA 91324-3352

358 081 05 00 4
PHILLIPS KIM R & DOROTHY F
P O BOX 277
PLEASANTON NE 68866-0277

358 091 29 00 7
PICKENS LOY V & ILENE V
11 COOPER ST
ROCK CAVE WV 26234-9503

358 240 37 00 6
PIERSON JOHN CLAYTON JR
15304 MORNINGMIST LN
SILVER SPRINGS MD 20906

358 091 16 00 9
POND ROBERT
630 E CYPRESS AV APT D
BURBANK CA 91501

474 232 01 00 9
POOR JOHN I
56 WILLOWOOD
ALISO VIEJO CA 92656-2977

474 232 17 00 6
PORTWAY DANIEL
2837 SONOMA ST
TORRANCE CA 90503

474 232 13 00 4
PRESSLEY JOHN STEVEN
PO BOX 1907
PISMO BEACH CA 93448-1907

358 240 38 00 9
PROFESSIONAL EQUITIES INTERNAT
3564 EVENING CANYON RD
OCEANSIDE CA 92056-4910

358 350 13 00 8
QUARTO ANITA J F
1240 BRICKLEY RD
EUGENE OR 97401-2025

474 232 32 00 9
RAAB DREW W & PATRICIA A
11151 KNOTTY PINE DR
TRUCKEE CA 96161-3141

358 360 05 00 8
RABBITBRUSH SOLAR LLC
135 MAIN ST FLR 6
SAN FRANCISCO CA 94105-8113

474 232 03 00 5
RACY GLORIA
P O BOX 233
STRATFORD CA 93266

358 240 36 00 3
RAJ SUKHDEV & NIRMAL
30804 HARLAN CT
UNION CITY CA 94587

358 061 38 00 4
REDMAN MARSHALL & DORIS E
12121 WILSHIRE BL STE 600
LOS ANGELES CA 90025

358 010 09 06 2
REINOSO EDGAR
P O BOX 1664
SANTA CLARITA CA 91386

358 082 01 00 9 **INC**
REYES JESSIE M & CECILIA M
ADDRESS UNKNOWN

474 141 01 00 6
RICHARDS DAVID & DAHLEN JUNE
40046 BECKY LN
PALMDALE CA 93551

358 102 25 00 4
RICKER STEPHANIE
690 N LEMON HILL TL
ORANGE CA 92869-2403

358 101 18 00 7
RIDGELY BRIAN
37148 29TH PLACE EAST
PALMDALE CA 93550

358 051 01 00 3
RIECK JUDI B TRUST
39520 MURRIETA HOT SPRINGS RD
STE 219
MURRIETA CA 92563-7722

474 131 06 00 8
ROBERTSON CARL W JR
6332 HUNGERFORD ST
LAKEWOOD CA 90713-1259

474 231 21 00 0
ROBINSON FAMILY TRUST
1104 S MONTANA AV APT A8
BOZEMAN MT 59715-5388

358 082 05 00 1
ROBINSON MARK A & YVETTE D
1266 W PORTICO DR
ORO VALLEY AZ 85755-8757

358 062 40 00 6
ROCKLEWITZ ROBERT C
305 CRADDOCK AV
SYLACAUGA AL 35150-2805

475 172 13 00 4
ROSE ANITA REV INT VIVOS TR
14662 EMERYWOOD RD
TUSTIN CA 92680-6259

474 232 10 00 5
ROSENBLATT PHYLLIS
486 BROADWAY
NEW YORK NY 10013

358 082 19 00 2
ROSKILLY STEVEN & SHANNA
41227 W 47TH ST
LANCASTER CA 93536-2410

474 142 18 00 3
RUDE ERIC
PO BOX 56867
SHERMAN OAKS CA 91413-1867

358 051 15 00 4
RYAN FAMILY REVOCABLE TRUST
10568 MOUNTAIN BROW RD
SONORA CA 95370-8015

475 190 23 00 5
SABOLBORO MARIA CARMEN U
TRUST
12 EL CAMINITO
ORINDA CA 94563-2302

358 082 09 00 3
SALAZAR FLORENTINO JAMES
19713 88TH ST
CALIFORNIA CITY CA 93505-3904

358 082 31 00 6
SALONGA ALVIN BONDOC & LUISA
REYES
3703 BOYCE AV
LOS ANGELES CA 90039

358 092 32 00 2
SANDERS RONALD D & PATRICIA I
FAMILY TRUST
357 CALDARELLA CI
ROSEVILLE CA 95678-5972

358 061 08 02 5
SCHARF OSCAR & ANNA
3227 DONA RAQUEL
STUDIO CITY CA 91604

358 102 47 00 8
SCHAUFEELE ROBERT W JR & IRENE
970 VISTA WY
CHULA VISTA CA 91911

358 051 09 00 7
SCHEIRE ROBERT R & MARJORIE
5527 105TH ST W
WILLOW SPRINGS CA 93560-7500

474 232 20 00 4
SCHERER BRUCE R
P O BX 961
LAGUNA BEACH CA 92651

358 102 41 00 0
SCHINDLER GERALD P & JANICE M
900 S 12TH ST
MARION IA 52302-4927

358 141 26 00 2
SCHNEIDER R W & BERNICE F TRUST
4718 WOLFCREEK PKWY
LOUISVILLE KY 40241-1072

358 091 22 00 6
SCOTT ROBERT D FAMILY TRUST
309 GRANITE CI
ANTIOCH CA 94509-6213

474 232 25 00 9
SEARES FAMILY TRUST
549 W SHADWELL ST
CARSON CA 90745-3665

358 051 03 00 9
SEGAL MICHAEL & BRENDA
1426 STATE HIGHWAY 58
MOJAVE CA 93501-1961

358 051 05 00 5 **DUP**
SEGAL MICHAEL & BRENDA
1426 HIGHWAY 58
MOJAVE CA 93501

358 051 06 00 8
SEGAL MICHAEL CARL & BRENDA
NOELLE
1426 STATE HIGHWAY 58
MOJAVE CA 93501-1961

358 062 03 00 9
SHAH KRISHNA K
980 MORAGA AV
OAKLAND CA 94611-3444

474 231 03 00 8
SHIU LENORA FONG
1320 PUEO ST
HONOLULU HI 96816-5012

358 010 05 00 6
SIERRA SANTOS A & ERAZO ROSA A
1215 E 20TH ST
LOS ANGELES CA 90011-1204

358 092 29 00 4
SIMMONS CARL F REV LIV TR
4 THORPE DR APT 1B
SPARKILL NY 10976-1032

358 141 27 00 5
SIRIPOKE MONGKOL & SOPSUKE
2704 MOSSWOOD DR
SAN JOSE CA 95132

474 142 08 00 4
SKINNER A F
45580 10TH STREET EAST # 263
LANCASTER CA 93535

475 172 18 00 9
SMITH C CRAYTON LIV TR
11666 GOSHEN AV APT 125
LOS ANGELES CA 90049-6285

358 092 05 00 4
SMITH PEGGY M
PO BOX 344
ROSAMOND CA 93560-0344

358 092 07 00 0
SNOW CHRISTINA L & MASON JR
3205 REDWOOD CANYON LN
BAKERSFIELD CA 93314

358 092 08 00 3
SNOW MASON JR
34365 STOCKDALE HW
BUTTONWILLOW CA 93206

475 171 16 00 6
SO CAL EDISON CO
2244 WALNUT GROVE AV
ROSEMEAD CA 91770

358 141 42 00 8
SOTO GERARDO & CLAUDIA
16155 PINE AV
FONTANA CA 92335

474 131 08 00 4
SOU CAL EDISON CO
2244 WALNUT GROVE AV
ROSEMEAD CA 91770-3714

474 131 14 00 1
SOU CAL EDISON CO
14799 CHESTNUT ST
WESTMINSTER CA 92683-5240

474 132 02 00 3
SOUTHWEST CONSERVANCY II LLC
PO BOX 1413
BEND OR 97709-1413

358 061 36 00 8 **DUP**
SOUTHWEST CONSERVANCY III
PO BOX 1413
BEND OR 97709-1413

358 061 10 01 1 **DUP**
SOUTHWEST CONSERVANCY III LLC
PO BOX 1413
BEND OR 97709-1413

358 141 20 00 4 **DUP**
SOUTHWEST CONSERVANCY LLC
PO BOX 1413
BEND OR 97709-1413

474 232 29 00 1
SPAITE FAM TR
523 N HOME AV
PARK RIDGE IL 60068-3035

358 082 33 00 2
STALEY MICHAEL E & SANDRA D
2351 ALPACA AV
ROSAMOND CA 93560

358 101 17 00 4
STAM CAMIL & CONSTANCE TR
1981 MC KINNEY WY 14G
SEAL BEACH CA 90740

358 102 52 00 2
STEFANOV MARK C & DONNA C
3 ALBERTO DUMONT COVE
GEORGETOWN TX 78626

474 142 15 00 4
STEIN JOHN IRA
528 4TH ST
NEVADA IA 50201-2223

474 142 16 00 7
STEVENSON MARK & DIANA REV
LIV TRUST
4480 MEADOWLARK CT
NAPA CA 94558-1739

358 061 04 00 5
STEWART GREG
1243 S MEYLER ST
SAN PEDRO CA 90731

474 120 14 00 1
STONE TRUST
16651 DALE VISTA LN
HUNTINGTON BCH CA 93647

475 171 20 00 7 **DUP**
STRANGE CAROLYN A
P O BOX 1893
PARADISE CA 95967-1893

475 171 18 00 2
STRANGE CAROLYN ANN
P O BOX 1893
PARADISE CA 95967-1893

358 082 22 00 0
TADJALLI FARROKH & PARICHEHR
29321 BARITE CI
MENIFEE CA 92584-8265

358 062 43 00 5
TAITAI BENJAMIN
3655 LEEWARD WY
OXNARD CA 93035-2349

358 111 20 00 5
TALLON KRISTY KAY
1426 SUNSWEPT DR
SAN JACINTO CA 92582-6203

358 062 11 00 2
TAPOCIK FMLY TR
2941 MC ALLISTER ST
RIVERSIDE CA 92503

474 111 26 00 0
THOMAS R G & CYNDA & HEATHER
3308 FAIRWAY ST
CLAREMORE OK 74019-4928

474 111 24 00 4
THOMAS R G & CYNDA & VELVET R
3308 FAIRWAY ST
CLAREMORE OK 74019-4928

474 111 29 00 9
THOMAS R G & CYNDA D & R G II
3308 FAIRWAY ST
CLAREMORE OK 74019-4928

358 051 12 00 5
TIDWELL DERRIL W & PATRICIA A
4568 HALE AV
LA VERNE CA 91750-2531

358 051 11 00 2 **DUP**
TIDWELL PATRICIA A
4568 HALE AV
LA VERNE CA 91750-2531

474 153 03 00 9
TIMMS DAVID W TR
P O BOX 1385
SIMI VALLEY CA 93062

474 153 03 00 9
TIMMS DAVID W TR
P O BOX 3387
SIMI VALLEY CA 93093

474 120 47 00 7
TIVENS DONALD J & M FAMILY TR
21250 CALIFA ST STE 113
WOODLAND HILLS CA 91367-5025

475 171 13 00 7
TODD MARY LOU B TRUST A
1051 CLIFF DR
SANTA BARBARA CA 93109-1774

358 102 50 00 6
TOLENTINO NINA CRISOSTOMO
TRUST
P O BOX 56867
SHERMAN OAKS CA 91413-6867

358 350 03 00 9
TOMOOKA FAMILY TRUST
630 E SUNSET AV
SANTA MARIA CA 93454

358 091 13 00 0
TONG NHIEM & LY HUONG P
PO BOX 2411
LA HABRA CA 90632-2411

358 082 17 00 6
TOPPETA MICHAEL
PO BOX 875
TEHACHAPI CA 93581-0875

358 101 21 00 5
TOURYAN JOHN L
1677 PLATEAU CI
S LAKE TAHOE CA 95731

358 112 22 00 8
TRAN SON NGUYEN
19379 BRIDGEWATER LN
RIVERSIDE CA 92508-6265

358 091 01 00 5
TRAN THANH CHI & QUAN THUC
1609 SOUTHGATE DR
BAKERSFIELD CA 93304-5152

474 141 08 00 7
TROPPER TIMOTHEUS FRANZ ERWIN
7251 MADORA AV
WINNETKA CA 91306-3026

358 111 34 00 6
TRUDREAM PROP L L C
6200 N ROCKSIDE WOODS BL STE 215
INDEPENDENCE OH 44131-2373

474 120 49 00 3
TSUJIHARA LIVING TR
2229 CALIFORNIA AV
WAHIAWA HI 96786-2803

358 112 23 00 1
U S A
450 GOLDEN GATE AVENUE
SAN FRANCISCO, CA 94102

358 102 14 00 2
URBANO ROBERT T
1422 ROCK GLEN AV APT 202
GLENDALE CA 91205-2029

358 082 21 00 7
VALDEZ LUIS & BECARRA TERESA
13306 JUDD ST
PACOIMA CA 91331

358 061 07 00 4
VALLEY REALTY INC PROFIT
SHARING PLAN
PO BOX 2044
LANCASTER CA 93539-2044

474 154 06 01 4
VALLON CLAUDIA RENE
716 VIA DE LA PAZ
PACIFIC PALISAD CA 90272-4366

358 092 20 00 7
VAN KLEEFF GILLIAN LESLEY
16904 DONWEST
TUSTIN CA 92780-4056

358 141 14 00 7
VAUGHAN B SCOTT
P O BOX 1110
ROSAMOND CA 93560

358 091 14 01 2
VELLINGA TRUST
5110 E ENID AV
MESA AZ 85206

474 111 20 00 2
VENTENILLA FRED G
1336 NEOLA
EAGLE ROCK CA 90041

474 111 27 00 3
VENTENILLA LILY GARCIA
10338 SALA PL
SUN VALLEY CA 91352

358 061 46 00 7
VINCELETE ROBERT H JR & TERRY
ANN FAM TR
1132 CLOVERDALE CT
ROSAMOND CA 93560-6622

358 360 14 00 4
WALSCHOTS BEN C & DARLENE TR
963 BLUEJAY DR
SANTA MARIA CA 93455-6324

358 081 26 00 5
WEHAN JON P
612 PATRICIA CT
GARDNERVILLE NV 89460

474 232 06 00 4
WEIDEMANN CHARLES E
15234 CAMPUS PARK DR APT B
MOORPARK CA 93021-1650

474 232 12 00 1
WEIDEMANN MAY A
5801 HICKORY DR APT B
OAK PARK CA 91377-3944

474 120 50 00 5
WEISS JAMES T LIV TR
555 FREEMAN RD # 185
CENTRAL POINT OR 97502-2562

358 092 30 00 6
WELTER PARTNERS L P
2751 S CITRUS ST
WEST COVINA CA 91791-3407

358 112 30 00 1
WERTHER TARAANNE MARIE
P O BOX 2405
ROSAMOND CA 93560

475 172 28 00 8
WESTPHAL FAMILY TRUST
5780 N CAMINO PADRE ISODORO
TUSCON AZ 85718

474 131 07 00 1
WHITLOCK KATHLEEN M
3168 AMARILLO AV
SIMI VALLEY CA 93063-1706

474 131 13 00 8 **DUP**
WHITLOCK KATHLEEN M
3168 AMARILLO AV
SIMI CA 93063-1706

475 172 32 00 9
WHITWORTH VAUGHAN &
CAROLYN TR
4957 ESCALON AV
LOS ANGELES CA 90043

474 132 06 00 5
WIDHALM STEVE & NANCY
FAMILY TRUST
15521 N DAVIS RD
LODI CA 95242-9221

358 112 18 00 7 **DUP**
WIDHALM STEVE & NANCY TR
15521 N DAVIS RD
LODI CA 95242-9221

474 231 26 00 5
WILD FELICISMA M SEPARATE
PROPERTY TRUST
349 SPRING CANYON WY
OCEANSIDE CA 92057-6531

358 112 14 01 4
WILLHITE ROBERT BRADLEY
1812 W BURBANK BL # 284
BURBANK CA 91506-1315

358 092 06 00 7
WILLIAMS FMLY TR
PO BOX 2407
ROSAMOND CA 93560-2407

358 091 03 00 1
WILSON ROBERT L JR
5325 S TRIMBLE RD
ATLANTA GA 30342-2175

358 360 06 00 1
WING ERNEST QUON
5 CALLE VERANO
RANCHO SANTA MA CA 92688-2622

358 101 12 00 9
WINTERS RAE E & JANET L TR
51260 W 100TH ST
ROSAMOND CA 93560

474 120 15 00 4 **INC**
WITTIG URSULA
ADDRESS UNKNOWN

474 231 08 00 3
WON YONG HWA
449 W FOOTHILL BL
GLENDDORA CA 91741

358 062 10 00 9
WUBBENHORST FAMILY TRUST
431 RAFAEL DR
ELVERTA CA 95626-9544

358 092 04 00 1
YABLONSKI FMLY TRUST
35859 BLACK MARLIN DR
LEWES DE 19958-5036

358 061 40 00 9
YETO FAMILY TRUST
415 FERNWOOD DR
OXNARD CA 93030-4032

358 082 15 01 9
YORK RUBY J
20783 DEERHORN VALLEY RD
JAMUL CA 91935-7936

474 120 12 00 5
YOUNG JASON
6195 105TH ST WEST
ROSAMOND CA 93560

358 092 16 00 6
ZERAVICA MINNIE M
PO BOX 226
DUNSMUIR CA 96025

358 101 15 00 8
ZIMMERMAN KRISTY
3403 W 9TH AV
HUTCHINSON KS 67501-2834

Notice of Completion & Environmental Document Transmittal

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SCH # 2019071059

Project Title: BigBeau Solar Project by BigBeau Solar, LLC/EDF Renewables Development, Inc.

Lead Agency: Kern County Planning Department

Contact Person: Terrance Smalls

Mailing Address: 2700 "M" Street Suite 100

Phone: (661) 862-8607

City: Bakersfield

Zip: 93301-2323

County: Kern

Project Location: County: Kern City/Nearest Community: Rosamond, Mojave

Cross Streets: West on Rosamond Boulevard, north on 140th Street West, and east on either Avenue of the Stars Zip Code: 93560

Lat. / Long.: 34° 54' 16" N / 118° 23' 8" W

Total Acres: 2,285

Assessor's Parcel No.: Multiple

Section: Multiple Twp.: Multiple Range: Multiple Base: SBB&M

Within 2 Miles: State Hwy #: SR-14 – 12 miles east

Waterways: Los Angeles Aqueduct

Airports: N/A

Railways: N/A

Schools: N/A

Document Type:

CEQA: ☐ NOP
☐ Early Cons
☐ Neg Dec
☐ Mit Neg Dec

☒ Draft EIR
☐ Supplement/Subsequent EIR
(Prior SCH No.)
Other

NEPA: ☐ NOI
☐ EA
☐ Draft EIS
☐ FONSI

Other: ☐ Joint Document
☐ Final Document
☐ Other

Local Action Type:

☐ General Plan Update
☒ General Plan Amendment
☐ General Plan Element
☐ Community Plan

☒ Specific Plan
☐ Master Plan
☐ Planned Unit Development
☐ Site Plan

☒ Rezone
☐ Prezone
☒ Use Permit
☐ Land Division (Subdivision, etc.)

☐ Annexation
☐ Redevelopment
☐ Coastal Permit
☒ Other

Development Type:

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

☐ Water Facilities: Type _____ MGD _____
☐ Transportation: Type _____
☐ Mining: Mineral _____
☒ Power: Type Solar PV MW 128 MW
☐ Waste Treatment: Type _____ MGD _____
☐ Hazardous Waste: Type _____
☐ Other: _____

Project Issues Discussed in Document:

☒ Aesthetic/Visual
☒ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☒ Biological Resources
☐ Coastal Zone
☒ Drainage/Absorption
☐ Economic/Jobs
☐ Other

☐ 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:

Scattered Single-family homes. Zoning: A (Exclusive Agriculture); A FP (A, Floodplain Combining); A FPS (A, Floodplain Secondary); A WE (A, Wind Energy) E-20 RS FPS (Estate 20 acres, Residential Suburban, Floodplain Secondary); PL RS FPS (Platted Lands, Residential Suburban, Floodplain Secondary); Kern County General Plan: 4.1 (Specific Plan – Willow Springs); 8.3 (Extensive Ag, 20 acre min); 8.5 (Resource Management, Minimum 20 Acre Size); 8.3 /2.5 (Flood Hazard); 8.5/2.5 (Flood Hazard); Willow Springs Specific Plan: 5.7 (Minimum 5 Gross Acres/Unit); 5.75 (Minimum 10 Gross Acres/Unit) ; 5.8 (Minimum 20 Gross Acres/Unit)

Project Description: (please use a separate page if necessary) BigBeau Solar, LLC by EDF Renewables (project proponent), is a proposed photovoltaic electrical generating facility with capacity to generate up to 128 megawatt hours (MW) of renewable electrical energy and store up to 60 MW energy in a Battery Storage System (BESS). The proposed project is situated on approximately 2,185 acres of privately owned land and 160 acres of land owned by the California State Lands Commission. Implementation of the project as proposed would include: (a) Two (2) Zoning Classification Changes (ZCC) from the existing Zone District PLS RS FPS (Platted Lands-Residential Suburban Combining-Floodplain Secondary Combining) to A FPS (Exclusive Agriculture-Floodplain Secondary Combining) on 66 acres (ZCC 13, Map 215) and from the existing zoning district E (10) RS FPS (Estate) to A FPS on 456.9 acres, E (10) RS GH FPS (Geological Hazard Combining) to A GH FPS on 2.7, E (10) RS MH FPS (Mobilehome Combining) to A FPS on 10.1 acres, E (2 ½) RS FPS to A FPS on 110.9 acres, E (20) RS FPS to A FPS on 630.8 acres, E (20) RS GH FPS to A GH FPS on 9.6 acres, E (5) RS FPS to A FPS on 80.6 acres (ZCC 44, Map 232); (b) two (2) Conditional Use Permits, each to allow for the construction and operation of a solar photovoltaic electrical generating facility (Section 19.12.030.G) in an A District (CUP 13, Map 215; CUP 41, Map 232); (c) two (2) Conditional Use Permits, each to allow for the construction and operation of a communication tower (Section 19.12.030.F) in an A District (CUP 14, 215; CUP 42, Map 232); (d) two (2) Conditional Use Permits, each to allow for the construction and operation

Draft Environmental Impact Report

SCH# 2019071059

Volume 1

Chapters 1 through 10

BigBeau Solar Project

By BigBeau Solar, LLC/EDF Renewables Development, Inc.

ZCC 13, Map 215

ZCC 44, Map 232

CUP 13, Map 215

CUP 14, Map 215

CUP 15, Map 215

CUP 41, Map 232

CUP 42, Map 232

CUP 43, Map 232

GPA 4, Map 215

SPA 32, Map 232



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January 2020

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1.1 Introduction

The BigBeau Solar Project (project), proposed by BigBeau Solar, LLC by EDF Renewables (project proponent/operator), would develop a photovoltaic (PV) solar facility and associated infrastructure necessary to generate a combined 128 megawatts (MW) (alternating current or “AC”) of renewable electrical energy and/or energy storage capacity and up to 60 MW of a Battery Energy Storage System (BESS). The project site encompasses a study area that includes both privately owned and publicly owned land. While the majority of the site (approximately 2,125 acres) have either been purchased or leased by the project proponent, one parcel (approximately 160 acres) is owned by the California State Lands Commission (Commission). A new 34.5 kV step-up conversion station and/or kV generation-tie (gen-tie) line would be constructed would be installed in conjunction with roads and panel arrays within the project site, connecting each solar panel to a feeder circuit; each feeder circuit would in turn be connected to the substations, where transformers would increase the energy from 34.5 kV to 220 kV. The energy would then connect to the Valentine Solar, Catalina Solar Soleil, or Rose Meadow Substation(s) and ultimately the Southern California Edison’s (SCE) Whirlwind Substation.

The project proponent is requesting six CUPs: to allow for the construction and operation of 128 MW photovoltaic electrical generating facility with up to 60 MW of BESS (Section 19.12.030.G) in an A District; to allow the operation of concrete batch plant (19.12.030.G) in an A District; to allow a construction microwave tower (19.12.030.F) in the A zone district; and to allow vacation of existing public access easements on the project site. The project proponent/operator is also requesting California Environmental Quality Act (CEQA) review for the project.

The project site consists of 196 total parcels that have been purchased, leased, or are in the process of purchase or lease acquisition by the project proponent, including one parcel, approximately 160 acres in area, owned by the Commission. The Assessor Parcel Numbers (APNs) are listed in in **Table 1-1, Project Assessor Parcel Numbers – Kern County**, and **Table 1-2, Project Assessor Parcel Numbers – State Lands Commission**.

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474-131-18	474-131-19	474-131-20	474-131-21	474-131-22
474-131-25	474-131-26	474-131-27	474-131-28	474-132-01
474-132-02	474-132-03	474-132-04	474-132-05	474-132-06
474-132-07	474-132-08	474-132-09	474-132-10	474-132-12
474-132-13	474-132-14	474-153-25	474-153-26	474-231-01
474-231-02	474-231-03	474-231-04	474-231-05	474-231-07
474-231-08	474-231-09	474-231-10	474-231-11	474-231-13

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474-231-14	474-231-15	474-231-16	474-231-17	474-231-19
474-231-20	474-231-21	474-231-23	474-231-24	474-231-26
474-231-27	474-231-28	474-231-29	474-231-32	474-231-35
474-231-37	474-232-20	474-232-23	474-232-24	474-232-25
474-232-26	474-232-27	474-232-28	474-232-29	474-232-30
474-232-31	474-232-32	474-232-33	474-232-34	474-232-35
475-171-22	475-171-23	475-171-24	475-171-25	475-190-21
475-190-23	475-190-24			
Map 232				
358-010-01	358-051-01	358-051-02	358-061-01	358-061-02
358-061-04	358-061-05	358-061-06	358-061-07	358-061-08
358-061-09	358-061-10	358-061-11	358-061-12	358-061-13
358-061-14	358-061-15	358-061-16	358-061-17	358-061-19
358-061-20	358-061-21	358-061-22	358-061-23	358-061-24
358-061-25	358-061-30	358-061-31	358-061-32	358-061-33
358-061-36	358-061-37	358-061-38	358-061-40	358-061-41
358-061-42	358-061-46	358-061-47	358-081-01	358-081-03
358-081-05	358-081-06	358-081-17	358-101-01	358-101-02
358-101-04	358-101-05	358-101-06	358-101-07	358-101-08
358-101-09	358-101-11	358-101-12	358-101-13	358-101-15
358-101-16	358-101-17	358-101-18	358-101-19	358-101-20
358-101-21	358-102-03	358-102-05	358-102-23	358-102-24
358-102-25	358-102-26	358-102-33	358-102-35	358-102-36
358-102-37	358-102-39	358-102-40	358-102-41	358-102-43
358-102-45	358-102-47	358-102-49	358-102-50	358-102-53
358-102-54	358-112-01	358-112-02	358-112-04	358-112-05
358-112-06	358-112-07	358-112-13	358-112-14	358-112-24
358-112-25	358-112-26	358-112-28	358-112-29	358-112-30
358-112-31	358-112-32	358-141-16	358-141-19	358-141-20
358-141-21	358-141-31	358-141-32	358-141-33	358-141-35
358-141-36	358-141-40	358-141-41	358-141-42	358-240-05
358-240-06	358-240-08	358-240-31	358-240-33	358-240-34
358-240-35	358-240-36	358-240-37		

TABLE 1-2: PROJECT ASSESSOR PARCEL NUMBERS (APNS) – STATE LANDS COMMISSION**Map 215**

474-131-04

This Draft Environmental Impact Report (EIR) has been prepared by Kern County which is one of the Lead Agencies under CEQA, the other is the California State Lands Commission. 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 13, Map 215; CUP 41, Map 232; CUP 14, Map 215; CUP 42, Map 232; CUP 15, Map 215; CUP 43, Map 215) required for the project.

This Executive Summary summarizes the requirements of the CEQA *Statute and 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 project would develop a solar photovoltaic energy (PV) generating facility. As shown in **Figure 1-1, Site Vicinity**, and **Figure 1-2, Project Site Boundary and Site Plan**, the project is located in the south-eastern portion of Kern County near the unincorporated community of Rosamond. The project would generate a total of 128 MW of renewable electrical energy for delivery to the Statewide grid.

The project would include the development of a 2,285-acre solar facility and associated infrastructure with the capacity to generate a combined 128 MW of renewable electric energy and up to 60 MW of a BESS. A new on-site substation facility would be constructed to collect the power generated onsite and convert it from 34.5 kV to 220 kV of power for transmission in an overhead or underground line to the SCE transmission system and interconnection location. The project substation would transmit electricity through the existing Rose Meadow Substation and join via a ring bus assembly with other projects for ultimate delivery of electrical power and communications into the SCE Whirlwind Substation.

The proposed project includes four gen-tie options, including preferred and alternative gen-tie routes, although only one route would be constructed. The selected gen-tie would be constructed within its 125-foot-wide corridor and would consist of the utility poles, cabling, trenches, and a corresponding dirt maintenance road.

The project would have the following options for interconnection:

Gen-tie Option 1 – The proposed project’s preferred gen-tie line (Gen-tie Option 1) would exit the project boundary heading northwest approximately 2 miles where it would connect into the existing substation at the Valentine Solar Project. From there the transmission would utilize Valentine’s existing built facility to connect on to the Antelope Valley Transmission Line (AVTL). The Valentine gen-tie route, Catalina Solar, and Pacific Wind gen-tie lines and connection into the SCE Whirlwind Substation were previously analyzed, approved via certified EIR and built accordingly. Other potential alternative routes for a portion of Gen-tie Option 1 are under consideration and are shown as Options 1.1, 1.2, and 1.3 in **Figure 3-10, Gen Tie Routes**, in Chapter 3, *Project Description*.

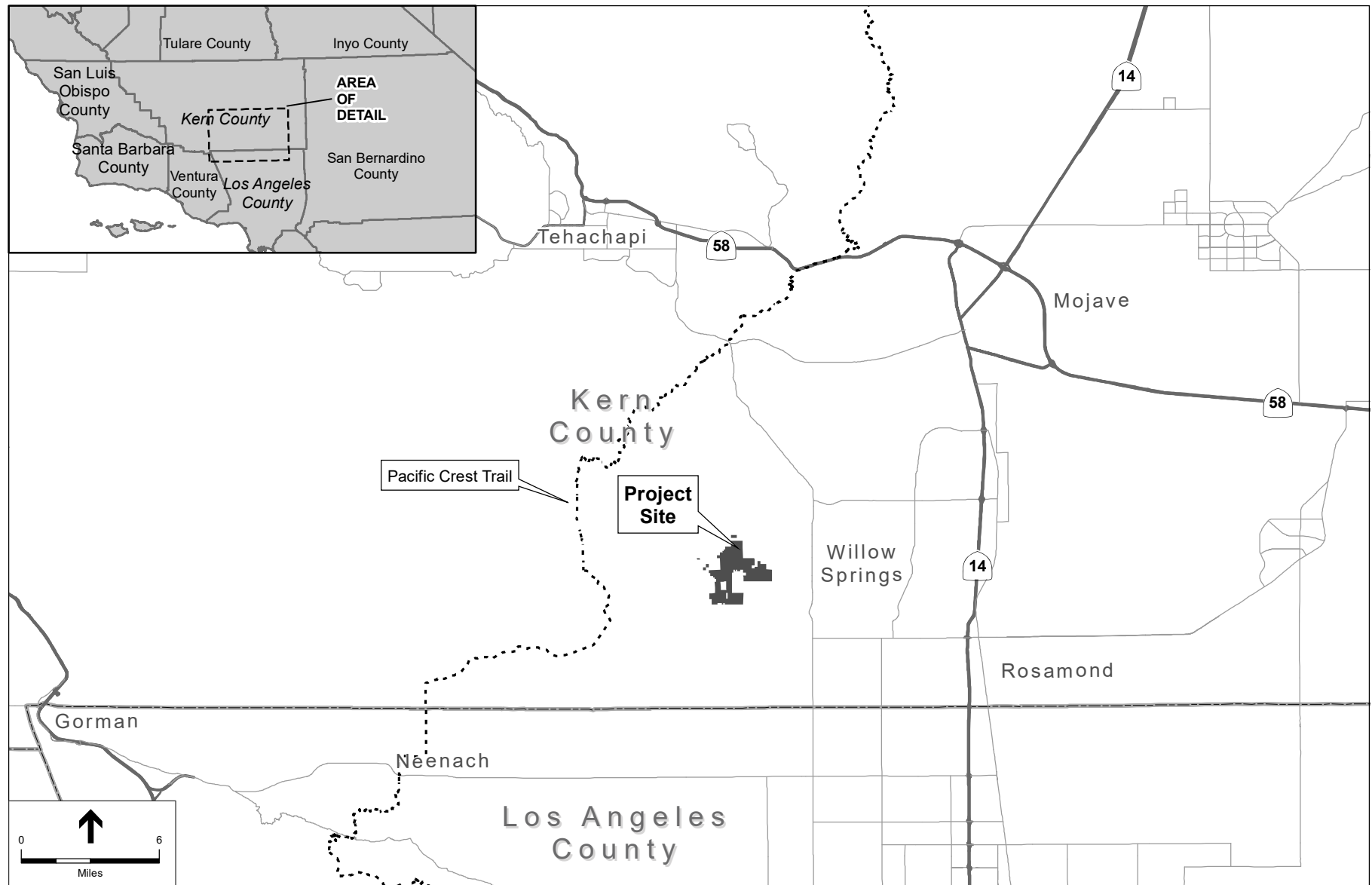


FIGURE 1-1: SITE VICINITY



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT

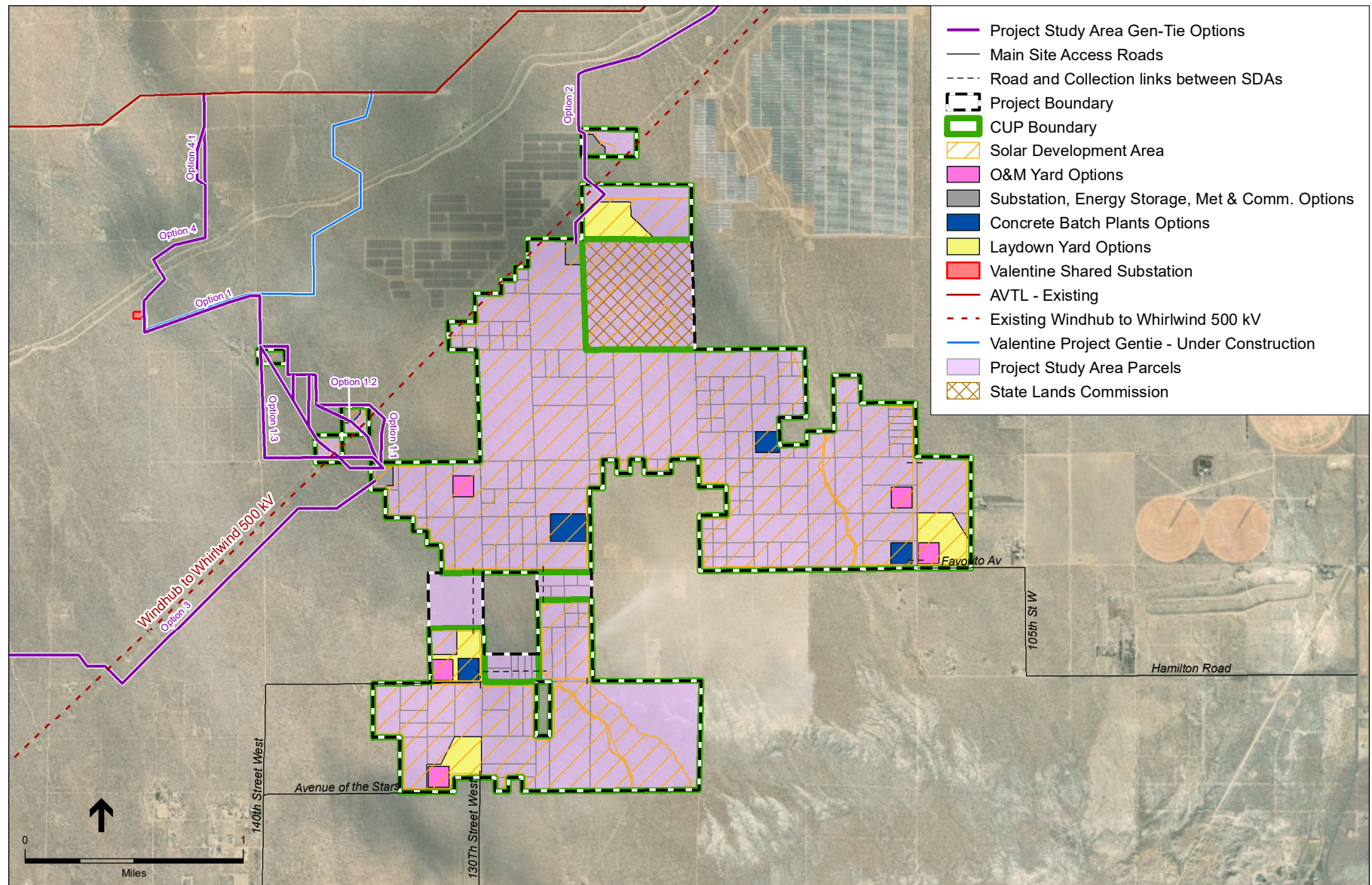


FIGURE 1-2: PROJECT SITE BOUNDARY AND SITE PLAN

Gen-tie Option 2 – Gen-tie Option 2 would exit the northern boundary of the project heading northeast approximately 2 miles where it would connect into the existing substation at the Catalina Solar project. AVTL and connection to the SCE Whirlwind Substation were previously analyzed, approved via a certified EIR, and built accordingly.

Gen-tie Option 3 – Gen-tie Option 3 would exit the western boundary of the project heading west 0.3 mile to SCE's TRTP and then southwest approximately 2.5 miles adjacent to the TRTP, then west 3.5 miles where it would connect into the existing Rose Meadow Substation. Additionally, a potential alternative route for a portion of Gen-tie Option 3 is under consideration and is shown as Option 3.1 in **Figure 3-10, Gen Tie Routes**, in Chapter 3, *Project Description*.

Gen-tie Option 4 – Gen-tie Option 4 would be an extension of Gen-tie Option 1, and instead of connecting to the Valentine Substation, it would continue north of the Valentine Substation, tapping into the existing 220 kV AVTL. Also, one potential alternative route for Gen-tie Option 4 is under consideration, as shown as Option 4.1 in **Figure 3-10, Gen Tie Routes**, in Chapter 3, *Project Description*. Options 4 and 4.1 were previously analyzed as part of the Valentine Solar Project, and approved in a certified EIR. Gen-tie routes would require crossings of the Los Angeles Department of Water and Power (LADWP) aqueduct(s) and all crossings would adhere to LADWP standards.

The project's facilities would include solar panels/modules, inverters, a BESS, an existing substation, internal service roads, telecommunication equipment, including underground and overhead fiber optics, and overhead and underground electrical collection systems. The different solar panel circuits would gather at the substation (or switchyard) and would then be sent to the underground or overhead electricity lines leading to a grid interconnection point. Additionally, the proposed project would include construction of one substation facility in one of multiple potential locations within the project boundaries or on one of three identified parcels off site. The substation that would collect the power generated by the PV solar system blocks, transport the power via the underground or overhead power collection system, and then convert the power for transmission in an overhead 220-kV line to the Valentine Solar, Catalina Solar Soleil, or Rose Meadow Substation(s) and ultimately the SCE Whirlwind Substation.

The project would ultimately cover 2,125 acres and would include the following components:

Solar PV Generating Facilities and Solar Modules: Installation of up to 128 MW of solar PV modules, mounted either on a galvanized metal fixed-tilt or single-axis tracking system. The mounting systems for the modules would be mounted on steel support posts that would be pile driven into the ground.

Energy Storage Facility: Installation of a BESS and accessories that would provide storage capacity for up to 60 MW of energy for the electrical grid.

Operations and Maintenance Facility: An Operations & Maintenance (O&M) facility to maintain the facilities.

Substations: A collector substation including circuit breakers, disconnect switches, metering protection equipment, and main step-up transformer(s). Potential upgrades to the existing Rose Meadow Substation and/or SCE Whirlwind Substation and installation of new circuits, lines, switches, utility poles, etc.

Electrical Collector System and Inverters: Overhead and underground collection systems throughout the solar facilities (the collection systems would be aggregated at multiple circuit breakers or medium-voltage switchgear positions within the project facilities, leading to the collector substation);

Step-up Conversion and/or Generation-tie (gen-tie) Routes: 34.5-kV to 230 kV step-up conversion station and/or kV gen-tie line to connect to the Valentine Solar, Catalina Solar Soleil, or Rose Meadow Substation(s) and ultimately the SCE Whirlwind Substation.

Telecommunication: Telecommunication equipment, including underground and overhead fiber optics, and meteorological data collection systems or supervisory control and data acquisition (SCADA).

Site Access and Security: Onsite access roads and perimeter security fencing and nighttime directional lighting.

Meteorological (Met) station: The onsite solar meteorological station would be located near the O&M building and would consist of solar energy (irradiance) meters, as well as an air temperature sensor and wind anemometer.

The solar and/or energy storage facilities are intended to operate year-round, and would be designed to produce up to 128 MW of solar power at the point of interconnection to the transmission grid and would also include an up to 60 MW BESS.

1.2.1 Entitlements Required

The anticipated approvals needed for the project include general plan amendments to the circulation element of both the Kern County General Plan and the Willow Springs Specific Plan, changes in zone classification, adoption of conditional use permits and non-summary vacations to existing public roadways within the project boundaries. Construction and operation of the proposed solar energy facility may require additional State, local, and federal entitlements; as well as discretionary and ministerial actions and approvals listed below:

1.2.2 Kern County

Consideration and certification of Final EIR

Adoption of 15091 Findings of Fact and 15093 Findings and Statement of Overriding Considerations.

Approval of proposed Mitigation Measure Monitoring Program

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 circulation amendments to both the Kern County General Plan and the Willow Springs Specific Plan.

Approval by the Kern County Board of Supervisors for proposed public access vacations.

Kern County grading and building permits.

Kern County encroachment permits.

California Desert Native Plants Act Permit to Harvest Plants (Harvest Permit).

1.2.3 State Lands Parcel

As noted above, the proposed project consists of all privately-owned land, with the exception of one 160-acre parcel owned by the California State Lands Commission. As with the rest of the project site, the Commission-owned parcel is vacant and undeveloped. Following the County's consideration of the BigBeau Solar Project, the Commission will consider the request to lease the Commission-owned parcel for the proposed project. The Commission is considered a Responsible Agency under CEQA. Pursuant to *CEQA Guidelines* Sections 15096 and 15381, the Commission must rely on this EIR for CEQA compliance associated with its decision and must also issue its own findings regarding the project. Anticipated development on the Commission parcel would include PV panels, inverters, BESS, underground and overhead electrical lines and fiber, internal roads, safety lighting, fencing and ancillary facilities. These components are described in more detail in Section 3.6, Project Characteristics, above. Development on the Commission parcel will not include laydown yards, the substation, microwave/ communication tower, the temporary concrete batch plant or the O&M facility.

1.2.4 Other Responsible Agency Entitlements

U.S. Fish and Wildlife Service Habitat Conservation Plan (if required).

California Department of Fish and Wildlife (CDFW), Lake and or Streambed Alteration Agreement or Incidental Take Permit (if required).

National Pollutant Discharge Elimination System Construction General Permit (if required).

Regional Water Quality Control Board Section 401 certification and waste discharge requirements (if required).

California Department of Transportation Right-of-Way Encroachment Permit, and Permit for Transport of Oversized Loads.

Eastern Kern County Air Pollution Control District Authority to Construct/Permit to Operate/Fugitive Dust Control Plan.

Rights-of-way crossing consent forms from Kern County, SCE, and Los Angeles Department of Water and Power (LADWP).

State Lands Commission Lease.

1.3 Relationship of the Project to Other Energy Projects

The project is being developed independently of other approved or proposed solar projects in the County. If approved, the project facilities would be subject to their own use permits, conditions of approval, interconnection agreements, and power purchase agreements. Kern County understands that the project facilities would be built and operated independently of any other energy project.

There are several existing, permitted, solar energy, wind energy, and transmission projects in the region where the project site is located, as shown in **Figure 3-5, Surrounding Solar Projects** in Chapter 3, *Project Description*. The Valentine Solar Project, located to the west of the proposed project, was approved by the

Board of Supervisors in June 2016, is currently under construction, and will be operational as of December 2019.

The Catalina Renewable Energy Project, located immediately north of the project's northeastern boundary, was approved by the Board of Supervisors in December 2011, with an Addendum approved by the Board of Supervisors in March 2014. Currently, 128 MW are operational, 110 MW (Catalina Solar) and 18 MW (Catalina Solar 2) was completed in 2015. Additionally, the AVEP Solar Project is currently undergoing environmental review and is proposed just south of and adjacent to the project site. Additionally, the following projects have been approved in Eastern Kern County: The Pacific Wind and PdV Manzanita, the Beacon Photovoltaic Project, GE Energy LLC, LADWP, RE Distributed Solar Projects (Barren Ridge 1, Columbia One, Columbia Two, Great Lakes), Rosamond Solar Project, Kingbird Solar, SEPV Mojave West Solar Project, Fremont Solar (Springbok 2 Solar Farm) Project, Windhub Solar Project, and Eland 1 Solar Project.

1.4 Purpose and Use of the EIR

An EIR is a public informational document used in the planning and decision-making process. This project-level EIR will analyze the environmental impacts of the 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 that would eliminate any significant adverse environmental impacts or reduce the impacts to a less than significant level.

An EIR also discloses growth-inducing impacts; impacts found not to be significant; and significant cumulative impacts of past, present, and reasonably anticipated future projects. CEQA requires preparation of an EIR that reflects the independent judgment of the lead agency regarding the impacts, the level of significance of the impacts both before and after mitigation, and mitigation measures proposed to reduce the impacts. A draft EIR is circulated to responsible agencies, trustee agencies with resources affected by the project, and interested agencies and individuals. The purposes of public and agency review of a draft EIR include sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting counterproposals. Reviewers of a draft EIR are requested to focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment, and ways in which the significant impacts of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate significant environmental effects.

This EIR is being distributed directly to agencies, organizations, and interested groups and persons for comment during a 45-day formal review period in accordance with 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 Project Objectives

The proposed project would provide the State of California (State) with a renewable energy source that would assist the State in complying with the Renewables Portfolio Standard (RPS) under Senate Bill (SB) 350 (2015), which requires that 50 percent of all electricity sold in the state to be generated from renewable energy sources by December 31, 2030. Senate Bill 100 was approved in September 2018 and would increase the RPS to a 100 percent goal by 2045.

The following is a list of project objectives identified by the project applicant:

- Utilize property within Kern County for the placement of a large scale solar PV facility that includes battery storage;

- 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 Senate Bill 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 Senate Bill 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 increases RPS in 2030 from 50 percent to 60 percent and establishes a goal of 100 percent RPS by 2045;

- Develop an economically feasible and commercially financeable project;

- Provide solar-generated electricity to the California Independent System Operator (CAISO) grid;

- Assist Kern County in promoting its role as the State's leading producer of renewable energy;

- Provide green jobs to Kern County and the state of California; and

- Site and design the project in an environmentally responsible manner consistent with current Kern County guidelines.

1.5.2 Regional Setting

The project site is located west of the unincorporated community of Willow Springs in southeastern Kern County, California as shown in **Figure 3-1, Project Vicinity**, in Chapter 3, Project Description, of this EIR. The topography of the project area generally slopes to the southeast as the project site is south of the Tehachapi Mountains. Desert vegetation dominates the region. Elevations across the project site range from approximately 3,000 feet above mean sea level (msl) in the northwest portion of the site to approximately 2,800 feet above msl in the southeast portion of the site. Communities within the vicinity of the project site are the City of California City in Kern County and the cities of Lancaster and Palmdale in Los Angeles County, which are approximately 17 miles northeast, 9 miles southeast, and 24 miles southeast of the project, respectively. The project is approximately 38 miles southeast of the City of Bakersfield, 13 miles south of the City of Tehachapi, and 1.9 miles northwest of the unincorporated community of Rosamond. Edwards Air Force Base is approximately 22 miles east of the project's eastern boundary.

Existing land uses at and in the immediate vicinity of the project site include grazing areas with rural fences, paved and unpaved roads, wind and solar energy generating facilities and open-space areas. Off-road vehicle (ORV) or off-highway vehicle (OHV) activities occur in the project vicinity and the Pacific Crest Trail passes approximately 2.5 miles southwest of the project site. Topography across the project site is relatively flat and generally slopes to the southeast.

1.5.3 Surrounding Land Uses and Project Site Conditions

The area surrounding the project site is characterized by scattered vacant land and low population density. Existing development in the area includes rural access roads, scattered rural residences, producing and nonproducing water wells, off-highway vehicle use, open range grazing and maintenance facilities, mining, wind and solar energy, and planned/existing meteorological towers.

Forest, parkland, and preserve areas in the vicinity of the project site include the Angeles National Forest located in Los Angeles County, approximately 44 miles south; the Desert Pines Wildlife Sanctuary and the Arthur B. Ripley Desert Woodland State Park located in Los Angeles County, approximately 12 miles to the south; and the Antelope Valley California Poppy Reserve located in Los Angeles County, approximately 11.5 miles to the south. The Pacific Crest National Scenic Trail (commonly known as the Pacific Crest Trail or PCT) is approximately 4.4 miles west of the project site. The Los Angeles Aqueduct is located to the north of the project site, along Aqueduct Road.

There are several existing and permitted solar energy, wind energy, and transmission projects in the region where the project site is located. An expanded list of existing, approved, and pending projects in the vicinity of the project site is provided in **Table 3-5, Cumulative Projects List**, in Chapter 3, *Project Description*.

As shown in **Figure 3-8, FEMA Flood Zone Hazards**, in Chapter 3, *Project Description*, of this EIR, the entirety of the project site is within a Federal Emergency Management Agency (FEMA) designated flood zone.

Based on a review of records maintained by the California Department of Conservation/Division of Oil, Gas and Geothermal Resources (DOGGR), wells were not identified on the project site (<https://maps.conservation.ca.gov/doggr/wellfinder/#close>).

The project would be served by the Kern County Sheriff's Office (KCSO) for law enforcement and public safety, Kern County Fire Department (KCFD) for fire protection, and Kern County Medical Emergency Service for emergency medical and rescue services. The closest KCSO Substation is the Mojave Substation located approximately 13 miles northeast of the project site at 1171 SR 58 in the community of Mojave. The nearest KCFD fire station that would serve the project is Station No. 15 (Rosamond), located at 3219 35th Street in the community of Rosamond, approximately 7.6 miles southeast of the project site. The nearest hospitals are the Antelope Valley Hospital, in the City of Lancaster, approximately 17.1 miles to the south and the Tehachapi Hospital, in the City of Tehachapi, approximately 15.2 miles to the northwest. The nearest school to the project site is Tropico Middle School, located approximately 5.8 miles southeast in the community of Rosamond.

The project site is not designated by the California Department of Conservation (DOC) as prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The DOC designates the project site as "Nonagricultural and Natural Vegetation" (DOC 2019). Approximately 954 acres of the project site are within the Kern County Agricultural Preserve Number 24 boundary.

The project site is not located within the boundaries of an Airport Influence Area as identified in the Kern County Airport Land Use Compatibility Plan. The nearest public airstrip is the Rosamond SkyPark, located approximately 9 miles to the southeast. State Route (SR) 58 is located 15 miles northwest of the project site, and SR 14 is located approximately 9 miles east of the site.

Table 1-3, *Project Site and Surrounding Land Uses*, below, summarizes the existing land uses, map code designations, and zoning classifications on the project site and surrounding area. **Figure 1-3, *General Plan and Land Use Designations*** and **Figure 1-4, *Existing Zoning Classifications***, show the land use designations and the existing zoning of the project site and its surrounding area.

TABLE 1-3: PROJECT SITE AND SURROUNDING LAND USES

Existing Land Use	Existing General Plan Designation	Existing Zoning Classification
Project Site	Vacant Land	8.3 (Extensive Ag/20-acre min);
		8.5 (Resource Management – Minimum 20 Acre Size);
		8.3/2.5 (Extensive Ag./Flood Hazard);
		8.5/2.1 (Resource Management/Seismic Hazard);
		8.5/2.5 (Resource Management/Flood Hazard);
	<i>Willow Springs Specific Plan:</i>	
	5.7 (Residential – Minimum 5 Gross Acres/Unit);	
	5.75 (Residential – Minimum 10 Gross Acres/Unit);	
	5.8 (Residential – Minimum 20 Gross Acres/Unit);	
	5.8/2.1 (Residential – Minimum 20 Gross Acres/Unit/Seismic Hazard)	
		A (Exclusive Agriculture);
		A FP (A – Floodplain Combining);
		A FPS (A – Floodplain Secondary);
		A GH (A – Geologic Hazard Combining);
		A GH FPS (A – Geologic Hazard–Floodplain Secondary);
		E-2.5 RS FPS (Estate 2.5 acres – Residential Suburban– Floodplain Secondary);
		E-5 RS FPS (Estate 5 acres – Residential Suburban – Floodplain Secondary);
		E-10 RS FPS (Estate 10 acres– Residential Suburban– Floodplain Secondary);
		E-10 RS GH FPS (Estate 10 acres– Residential Suburban– Geologic Hazard– Floodplain Secondary);
		E-10 RS MH FPS (Estate 10 acres– Mobile Home Combining –Floodplain Secondary);
		E-20 RS FPS (Estate 20 acres – Residential Suburban – Floodplain Secondary);
		E-20 RS GH FPS (Estate 20 acres– Residential Suburban– Geologic Hazard– Floodplain Secondary);
		PL RS FPS (Platted Lands – Residential Suburban – Floodplain Secondary)

TABLE 1-3: PROJECT SITE AND SURROUNDING LAND USES

	Existing Land Use	Existing General Plan Designation	Existing Zoning Classification
North	Solar Energy; Scattered Single-family homes; Vacant Land	8.3 (Extensive Ag/20-acre min);	A (Exclusive Agriculture);
		8.3/2.5 (Extensive Ag./Flood Hazard);	A FP (A – Floodplain Combining);
		8.5 (Resource Management/20-acre min)	A FPS (A – Floodplain Secondary);
			A WE (A – Wind Energy);
South	Scattered Single-family homes; Vacant Land		PL RS (Platted Land – Residential Suburban);
			PL RS FPS (Platted Lands – Residential Suburban – Floodplain Secondary)
		<i>Willow Springs Specific Plan:</i>	E-5 RS FPS (Estate 5 acres – Residential Suburban – Floodplain Secondary);
		5.7 (Residential – Minimum 5 Gross Acres/Unit);	E-10 RS FPS (Estate 10 Acres – RS FPS);
		5.75 (Residential – Minimum 10 Gross Acres/Unit);	E-20 RS FPS (Estate 10 Acres – RS FPS)
East	Scattered Single-family homes; Solar Energy; Vacant Land	5.8 (Residential – Minimum 20 Gross Acres/Unit)	
		8.5 (Resource Management/20-acre min)	A (Exclusive Agriculture);
		<i>Willow Springs Specific Plan:</i>	A FP (A – Floodplain Combining);
		5.8 (Residential – Minimum 20 Gross Acres/Unit)	A FPS (A – Floodplain Secondary);
			E-20 RS FPS (Estate 20 Acres – Residential Suburban – Floodplain Secondary);
West	Wind & Solar Energy; Vacant Land		PL RS (Platted Land – Residential Suburban);
			PL RS FPS (Platted Lands – Residential Suburban – Floodplain Secondary)
		8.3 (Extensive Ag/20-acre min);	A (Exclusive Agriculture);
		8.5 (Resource Management/20-acre min)	A FP (A – Floodplain Combining);
		<i>Willow Springs Specific Plan:</i>	A FPS (A – Floodplain Secondary);
		1.1 (State or Federal Land);	A WE (A – Wind Energy)
		5.8 (Residential – Minimum 20 Gross Acres/Unit);	
		8.5 (Resource Management/20-acre min)	

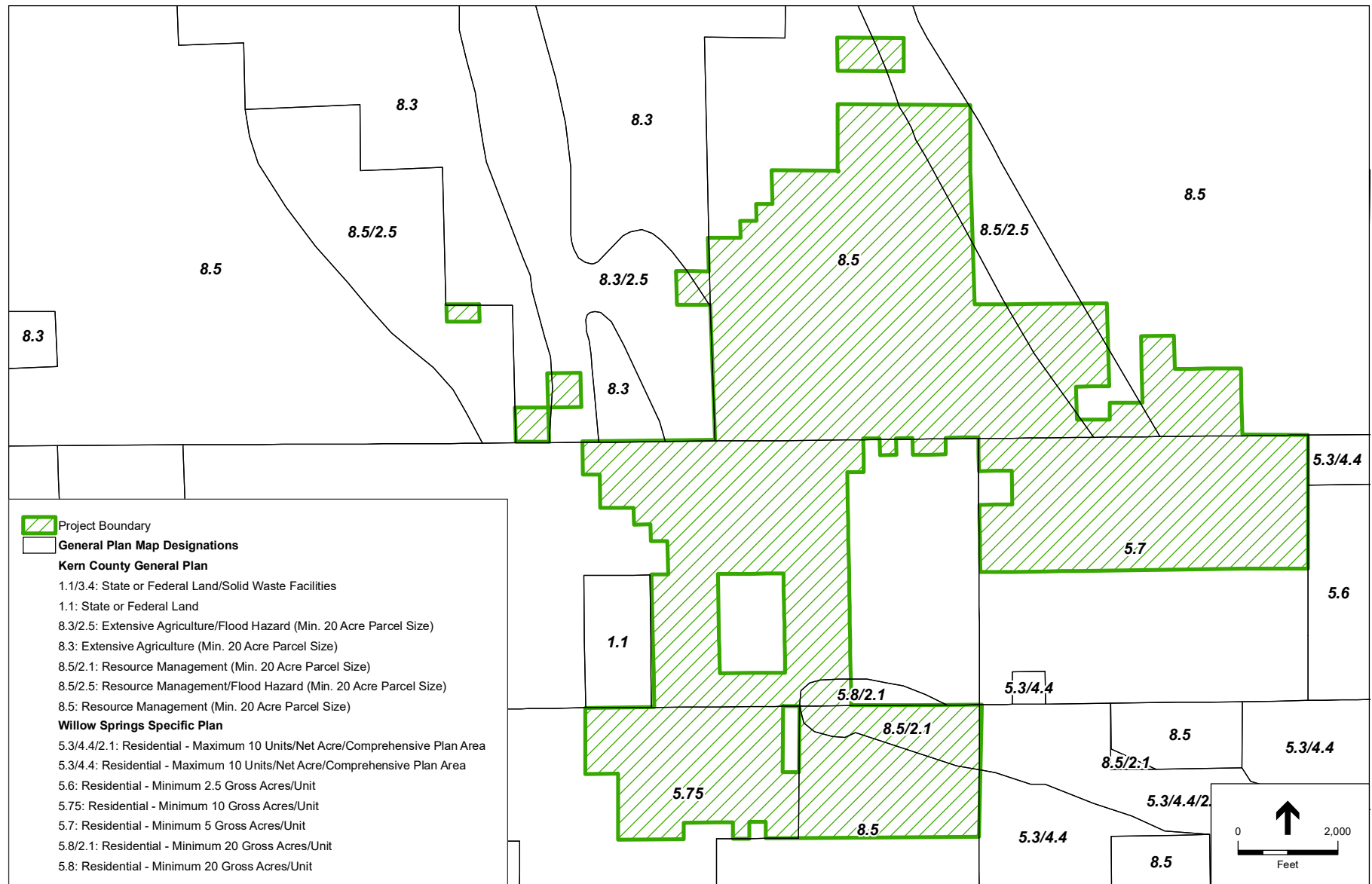


FIGURE 1-3: GENERAL PLAN AND LAND USE DESIGNATIONS



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT

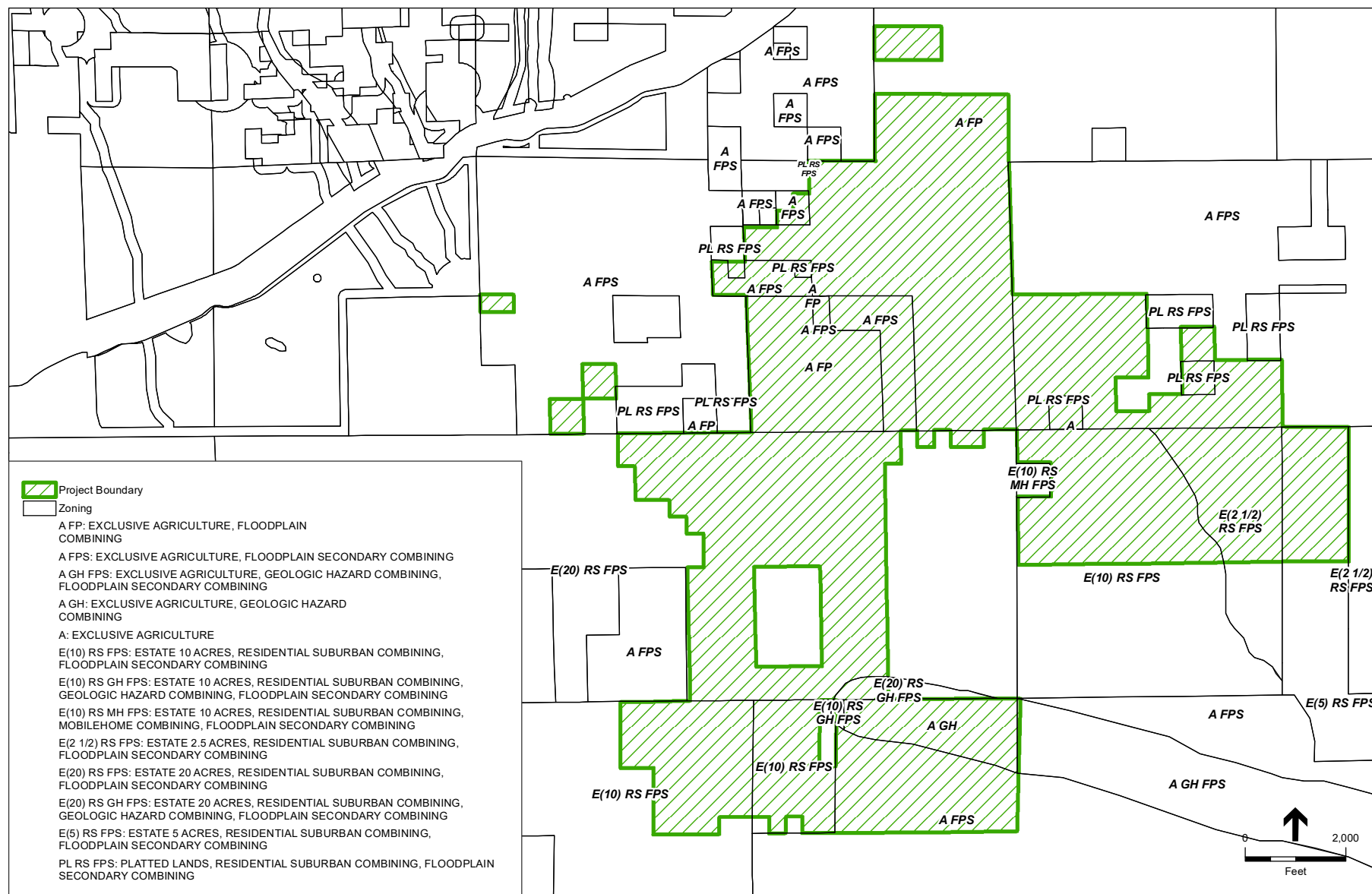


FIGURE 1-4: EXISTING ZONING CLASSIFICATIONS

1.5.4 Project Characteristics

The proposed project would include the development of solar facilities and associated infrastructure with the capacity to generate up to 128 MW of renewable electric energy at the point of interconnection to the transmission grid and would also include an up to 60 MW BESS. The proposed project would include construction of one substation facility in one of multiple potential locations within the project boundaries or on one of three identified parcels off site. Additionally, the proposed project includes several options for gen-tie routes as described above, although only one route would be constructed. The selected gen-tie would be constructed within its 150-foot-wide corridor and would consist of the utility poles, cabling, trenches, and a corresponding dirt maintenance road. Power generated on the project site would be collected at an onsite substation and converted from 34.5 kV to 220 kV of power for transmission in an overhead or underground line into the SCE transmission system and interconnection location. The project substation would transmit electricity through the existing Rose Meadow Substation and join via a ring bus assembly with other projects for ultimate delivery of electrical power and communications into the SCE Whirlwind Substation. Transmission poles would accommodate the underground feeder splice lines to the overhead lines and would range in height but be no taller than 160 feet. These overhead lines would be carried via new and existing electrical poles to the proposed substation facility, either the Valentine Substation, the Catalina Solar Soleil substation, or the Rose Meadow Substation. The project power generation would be fed to the project substation at 34.5-kV voltage of the power collection system. Underground collection cables would be installed in conjunction with roads and panel arrays within the project site, connecting each solar panel to a feeder circuit; each feeder circuit would in turn be connected to the substations. Overhead circuits up to 50 feet could be used to avoid environmentally sensitive areas or other constraints that are inherent to the project site. The different solar panel circuits would gather at the substations (or switchyard) and would then be sent to the overhead electricity lines leading to a grid interconnection point. The proposed solar facilities are intended to operate year-round, and would generate electricity during daylight hours when electricity demand is at its peak.

1.6 Environmental Impacts

Section 15128 of the *CEQA Guidelines* 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 an initial study/notice of preparation (IS/NOP) 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 IS/NOP are located in Appendix A of this EIR. Specific issues found to have no impact or less than significant impacts during preparation of the IS/NOP do not need to be addressed further in this EIR. Based on the findings of the IS/NOP 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 and recreation.

1.6.1 Impacts Not Further Considered in This EIR

As discussed in the IS/NOP (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

Recreation

1.6.2 Impacts of the Project

Sections 4.1 through 4.18 in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, provide a detailed discussion of the environmental setting, impacts associated with the project, and mitigation measures designed to reduce significant impacts to less than significant levels, when feasible. The impacts, mitigation measures, and residual impacts for the project are summarized in **Table 1-8, 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	Greenhouse Gas Emissions	Public Services
Agriculture and Forestry Resources	Hazards and Hazardous Materials	Transportation
Air Quality	Hydrology and Water Quality	Tribal Cultural Resources
Biological Resources	Land Use and Planning	Utilities and Service Systems
Cultural Resources	Population and Housing	Wildfire
Energy	Noise	
Geology and Soils		

1.6.3 Less-than-Significant Impacts

Table 1-4, Summary of Project Impacts that are Less than Significant or Less than Significant with Mitigation, presents those impacts of the project that were determined to be less than significant by themselves, or less than significant with implementation of mitigation measures. Less than significant cumulative impacts are also included in this table. Sections 4.1 through 4.18 of this EIR present detailed analysis of these impacts and describe the means by which the mitigation measures listed in Table 1-4 would reduce impacts to a less-than-significant level.

TABLE 1-4: SUMMARY OF PROJECT IMPACTS THAT ARE LESS THAN SIGNIFICANT OR LESS THAN SIGNIFICANT WITH MITIGATION

Impact	Mitigation Measures
Kern County BigBeau Solar	
Agriculture and Forest Resources (Project and Cumulative)	No mitigation required
Biological Resources (Project)	MM 4.4-1 through MM 4.4-10, and MM 4.9-2
Cultural Resources (Project and Cumulative)	MM 4.5-1 through MM 4.5-5
Energy (Project and Cumulative)	MM 4.3-1
Geology and Soils (Project and Cumulative)	MM 4.7-1 through MM 4.7-3
Greenhouse Gas Emissions (Project and Cumulative)	No mitigation required
Hazards and Hazardous Materials (Project and Cumulative)	MM 4.9-1, MM 4.9-2, MM 4.14-1, and MM 4.17-1
Hydrology and Water Quality (Project and Cumulative)	MM 4.9-1 and MM 4.10-1
Land Use and Planning (Project and Cumulative)	MM 4.11-1 and MM 4.11-2
Population and Housing (Project and Cumulative)	No mitigation required
Public Services (Project and Cumulative)	MM 4.14-1 and MM 4.14-2
Transportation (Project and Cumulative)	MM 4.15-1
Tribal Cultural Resources (Project and Cumulative)	MM 4.5-2
Utilities and Service Systems (Project and Cumulative)	MM 4.10-1 and MM 4.17-1
Wildfires (Project)	MM 4.10-1 and MM 4.14-1
California State Lands Commission BigBeau Solar	
Agriculture and Forest Resources (Project and Cumulative)	No mitigation required
Biological Resources (Project and Cumulative)	MM 4.4-1 through MM 4.4-10, and MM 4.9-2
Cultural Resources (Project and Cumulative)	MM 4.5-1 through MM 4.5-5
Energy (Project and Cumulative)	MM 4.3-1
Geology and Soils (Project and Cumulative)	MM 4.7-1 through MM 4.7-3
Greenhouse Gas Emissions (Project and Cumulative)	No mitigation required
Hazards and Hazardous Materials (Project and Cumulative)	MM 4.9-1, MM 4.9-2, MM 4.14-1, and MM 4.17-1
Hydrology and Water Quality (Project and Cumulative)	MM 4.9-1 and MM 4.10-1
Land Use and Planning (Project and Cumulative)	MM 4.11-1 and 4.11-2
Population and Housing (Project and Cumulative)	No mitigation required
Public Services (Project and Cumulative)	MM 4.14-1 and MM 4.14-2
Transportation (Project and Cumulative)	MM 4.15-1
Tribal Cultural Resources (Project and Cumulative)	MM 4.5-2
Utilities and Service Systems (Project and Cumulative)	MM 4.10-1 and MM 4.17-1
Wildfires (Project)	MM 4.10-1 and MM 4.14-1

1.6.4 Significant and Unavoidable Impacts

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, *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)
- Noise (Project and Cumulative)
- Wildfire (Cumulative)

Table 1-5, *Summary of Significant and Unavoidable Project-Level and Cumulative Impacts of the Solar Facility*, presents those impacts at the project -level and cumulatively. Sections 4.1, 4.3, 4.4, and 4.12 of this EIR present detailed analyses of these impacts and describe the means by which the mitigation measures listed in Table 1-5, would reduce the severity of impacts to the extent feasible.

TABLE 1-5: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE PROJECT-LEVEL AND CUMULATIVE IMPACTS OF THE SOLAR FACILITY

Impact	Project Impacts	Cumulative Impacts	Mitigation Measures
Kern County BigBeau Solar			
Aesthetics	The project would convert presently rural land to solar energy production; although mitigated, project impacts to visual character and quality would be reduced, but would remain significant and unavoidable	The project together with all other planned solar power projects within the Kern County portion of the San Joaquin Valley would result in significant and unavoidable cumulative impacts .	MM 4.1-1 through MM 4.1-6

TABLE 1-5: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE PROJECT-LEVEL AND CUMULATIVE IMPACTS OF THE SOLAR FACILITY

Impact	Project Impacts	Cumulative Impacts	Mitigation Measures
Air Quality	The project would contribute to air quality pollution; however, project impacts can be mitigated to a less than significant level . Impacts to applicable air quality plans were found to be significant and unavoidable .	The discussion provided above analyzed the project's potential cumulative significance impacts based the localized impacts and comparison to the CARB air basin emissions criterion provided in Kern County's Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports. Impacts for these criterion were determined to be less than significant. However, impacts related to consistency with existing air quality plans were found to be significant and unavoidable cumulative impacts .	MM 4.3-1 through MM 4.3-4
Biological Resources	The project would result in impacts on a variety of protected wildlife and plant species; however, with mitigation, impacts are less than significant .	When combined with cumulative impacts from past, present, and reasonably foreseeable future projects, including comparable renewable energy projects proposed for construction in Kern County, the project's incremental contribution to biological resources are significant and unavoidable .	MM 4.4-1 through MM 4.4-10 and MM 4.9-2
Noise	It is anticipated that there would be times during the project's construction and decommissioning activities that would result in a construction related noise impacts on adjacent sensitive receptors. Implementation of mitigation would reduce impacts to the extent feasible during construction activities. However, despite the implementation of mitigation, construction activities could generate noise greater than the standard for the Kern County General Plan and for short period of times, resulting in temporary construction impacts that would be considered significant and unavoidable .	The cumulative projects nearest to the project site are all either adjacent or close to the proposed project. Therefore, should construction of the proposed project and any of the cumulative projects occur currently, cumulative construction noise impacts would occur. As construction of the proposed project would result in significant and unavoidable impacts, the construction of the proposed project concurrently with the construction of adjacent and nearby cumulative projects, if it were to occur, would result in a cumulatively considerable contribution to construction noise impacts in the vicinity of the project. Therefore, the cumulative impact would be significant and unavoidable .	MM 4.12-1 through MM 4.12-4
Wildfire	There would be no significant and unavoidable project impacts.	Despite implementation of mitigation, 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 the installation or maintenance of associated infrastructure and, thus, would result in a significant and unavoidable cumulative impact.	MM 4.10-1 and MM 4.14-1

TABLE 1-5: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE PROJECT-LEVEL AND CUMULATIVE IMPACTS OF THE SOLAR FACILITY

Impact	Project Impacts	Cumulative Impacts	Mitigation Measures
California State Lands Commission BigBeau Solar			
Aesthetics	The project would convert presently rural land to solar energy production; although mitigated, project impacts to visual character and quality would be reduced, but would remain significant and unavoidable	The project together with all other planned solar power projects within the Kern County portion of the San Joaquin Valley would result in significant and unavoidable cumulative impacts .	MM 4.1-1 through MM 4.1-6
Air Quality	The project would contribute to air quality pollution; however, project impacts can be mitigated to a less than significant level . Impacts to applicable air quality plans were found to be significant and unavoidable .	The discussion provided above analyzed the project's potential cumulative significance impacts based the localized impacts and comparison to the CARB air basin emissions criterion provided in Kern County's Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports. Impacts for these criterion were determined to be less than significant. However, impacts related to consistency with existing air quality plans were found to be significant and unavoidable cumulative impacts .	MM 4.3-1 through MM 4.3-4
Biological Resources	The project would result in impacts on a variety of protected wildlife and plant species; however, with mitigation, impacts are less than significant .	When combined with cumulative impacts from past, present, and reasonably foreseeable future projects, including comparable renewable energy projects proposed for construction in Kern County, the project's incremental contribution to biological resources are significant and unavoidable .	MM 4.4-1 through MM 4.4-10 and MM 4.9-2
Noise	It is anticipated that there would be times during the project's construction and decommissioning activities that would result in a construction related noise impacts on adjacent sensitive receptors. Implementation of mitigation would reduce impacts to the extent feasible during construction activities. However, despite the implementation of mitigation, construction activities could generate noise greater than the standard for the Kern County General Plan and for short period of times, resulting in temporary construction impacts that would be considered significant and unavoidable .	The cumulative projects nearest to the project site are all either adjacent or close to the proposed project. Therefore, should construction of the proposed project and any of the cumulative projects occur currently, cumulative construction noise impacts would occur. As construction of the proposed project would result in significant and unavoidable impacts, the construction of the proposed project concurrently with the construction of adjacent and nearby cumulative projects, if it were to occur, would result in a cumulatively considerable contribution to construction noise impacts in the vicinity of the project. Therefore, the cumulative impact would be significant and unavoidable .	MM 4.12-1 through MM 4.12-4

TABLE 1-5: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE PROJECT-LEVEL AND CUMULATIVE IMPACTS OF THE SOLAR FACILITY

Impact	Project Impacts	Cumulative Impacts	Mitigation Measures
Wildfire	There would be no significant and unavoidable project impacts.	Despite implementation of mitigation, 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 the installation or maintenance of associated infrastructure and, thus, would result in a significant and unavoidable cumulative impact.	MM 4.10-1 and MM 4.14-1

1.6.5 Irreversible Impacts

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

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

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(d) of the CEQA *Guidelines* provides the following guidance on growth-inducing impacts:

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

Growth inducement can be a result of new development that requires an increase in employment levels, removes barriers to development, or provides resources that lead to secondary growth. With respect to employment, the project would not induce substantial growth. There is no on-site workforce for the project. 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. Construction staff not drawn from the local labor pool would stay in any of the local hotels in Inyokern, Ridgecrest or other local communities.

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

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

1.7 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][2]). Kern County considered several alternatives to reduce impacts to aesthetics (project and cumulative), air quality (project and cumulative), biological resources (cumulative), noise (project and cumulative), and wildfire (cumulative). Per CEQA, the lead agency may make an initial determination as to which alternatives are feasible and warrant further consideration, and which are infeasible. The following

alternatives were initially considered but were eliminated from further consideration in this EIR because they do not meet project objectives or were infeasible.

Wind Energy Project Alternative

Industrial Power Plant Alternative

Alternative Site Alternative

Wind Energy Project Alternative

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

It is a renewable and infinite resource.

It is free of any emissions, after installation, including carbon dioxide (GHG).

It is a free resource after the capital cost of installation (excluding maintenance).

In addition, energy production from wind power would not require the significant water usage associated with coal, nuclear, and combined-cycle sources. Turbines used in wind farms for commercial production of electric power are usually three-bladed units that are pointed into the wind by computer-controlled motors. The wind farm would consist of a group of wind turbines placed where electrical power is produced. The individual turbines would be interconnected with a medium-voltage power collection system and a communications network. At a substation, the medium-voltage electrical current would be increased through a transformer before connection to the high-voltage transmission system. Compared with traditional energy sources, the environmental effects of wind power are relatively minor. However, wind farms would not decrease short-term construction-related air emissions. Wind turbines would also have the potential to affect avian species in the local area. In addition, in order for wind turbines to produce an equivalent 128 MW of power that the project would produce, the alternative would require more space than what the project site current accommodates and, consequently, the project site would need to be expanded.

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

It would substantially increase the significant aesthetic impacts associated with the project because wind turbines would be much taller than solar panels, require FAA lighting and are more visible from many viewpoints.

It may result in additional/greater biological resources impacts to avian species than the project.

It may generate long-term noise impacts to nearby sensitive receptors from rotating turbine blades.

Industrial Power Plant Alternative

This alternative would involve the development of a natural gas-fired power plant or plants (equivalent to 128 MW) in Kern County. Fossil fuel-powered plants are designed on a large scale for continuous operation. However, byproducts of industrial power plant operation need to be considered in both design and operation. When waste heat that results from the finite efficiency of the power cycle is not recovered and used as steam or hot water, it must be released to the atmosphere, and often uses a cooling tower as a cooling medium (especially for condensing steam). The flue gas from combustion of the fossil fuels is discharged to the air and contains carbon dioxide and water vapor as well as other substances, such as nitrogen, nitrogen oxides, and sulfur oxides. Furthermore, unlike the proposed project, fossil fuel-powered plants are major emitters of GHGs. In addition, industrial power plants generally involve the construction of large structures, such as cooling towers and gas stacks, as well as a large number of employees to operate the facility on a 24/7 basis 365 days a year. Accordingly, the development of an industrial power plant would typically result in greater adverse impacts related to: (1) aesthetics and the local visual setting of the project area; (2) air quality and GHG emissions; (3) land use and planning conflicts with the rural development of the surrounding area; (4) noise from the plant operations; (5) traffic from increased employment at the facility; and (6) demand on public utilities, including water and waste disposal.

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

It would result in additional/greater impacts than the proposed project including aesthetics, air quality, GHG emissions, land use and planning, noise, transportation, and public utilities, including water use and disposal.

Depending on siting, it may also result in greater biological resources impacts than the project.

It would not contribute to the statewide renewable energy and GHG reduction objectives as this alternative would use non-renewable energy to produce electricity.

Alternative Site

This alternative would involve the development of the proposed project on another site located within Kern County, other than constructing rooftop distributed generation systems. Although undetermined at this time, the alternative project site would likely be located in the Antelope Valley desert region of the County. This alternative is assumed to involve construction of a 128 MW PV solar facility and up to 60 MW of BESS on a site totaling 2,285 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 proposed project.

The 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 the 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, noise, wildfire, and biological resources. This is based on the known general conditions in the area and the magnitude of the proposed project.

In addition, alternative sites for the project are not considered to be “potentially feasible,” as there are no suitable sites within the control of the project proponent that would reduce project impacts. The potential amount of available, similar sites is further reduced because unlike the proposed project, alternative sites may not include sites with close proximity to transmission infrastructure. Therefore, this alternative was eliminated because it would not avoid or substantially reduce the significant environmental effects of the proposed project.

1.7.2 Alternatives Selected for Analysis

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

Alternative 1: No Project Alternative

Alternative 2: 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 1-6, *Summary of Development Alternatives*, on the following page provides a summary of the relative impacts and feasibility of each alternative and **Table 1-7, *Comparison of Alternatives***, provides a summary side-by-side comparison of the potential impacts of the alternatives and the project. A complete discussion of each alternative is provided below.

TABLE 1-6: SUMMARY OF DEVELOPMENT ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction and operation of a solar facility on approximately 2,285 acres would generate up to 128 MW of electricity and deliver it to the grid, with up to 60 MW of BESS. Approval of Conditional Use Permit (CUP) for construction and operation of commercial solar electrical generating facilities, an Amendment to the General Plan and Willow Springs Specific Plan circulation element, removal of public easement vacations would be required.	N/A

TABLE 1-6: SUMMARY OF DEVELOPMENT ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Alternative No Project Alternative	1: No development would occur on the project site. The project site would remain unchanged.	<p>Required by CEQA</p> <p>Avoids need for GPAs, CUP, and Amendment to Circulation Plan</p> <p>Avoids all significant and unavoidable impacts</p> <p>Greater impacts to GHGs</p> <p>Less impact in all remaining environmental issue areas</p> <p>Does not meet any of the project objectives</p>
Alternative General Plan/Specific Plan and Zoning Build-Out Alternative	2: Project site would be developed to the maximum intensity allowed under the Kern County General Plan land use designations and zoning classifications and other existing applicable restrictions.	<p>Avoids need for CUPs and GPA</p> <p>Similar impacts to biological resources, and tribal cultural resources</p> <p>Less impact to aesthetics, agricultural and forestry resources, and land use and planning</p> <p>Greater overall impacts in all remaining environmental issue areas</p> <p>Does not meet any of the project objectives</p>
Alternative Reduced Acreage Alternative	3: Construction and operation of one solar facility on approximately 1,151 acres. This alternative is still expected to contain enough land to construct a solar array field capable of generating approximately 55 MW, with up to 26 MW of BESS due to the proportional reduction in project size. The project site would require approval of six CUPs.	<p>Similar impacts to energy, hazards and hazardous materials, land use and planning, public services, transportation, tribal cultural resources, and utilities and service systems</p> <p>Greater overall impacts to GHG</p> <p>Less impact in all remaining environmental issue areas</p> <p>Does not meet all the project objectives</p>
Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only	The construction of 128 MW of PV solar distributed on rooftops throughout the Antelope Valley. Electricity generated would be for on-site use only.	<p>Avoids need for CUP and GPA at the project site but may require other entitlements (such as a CUP or variance) on other sites</p> <p>Avoid significant and unavoidable impacts associated with aesthetics, air quality, and biological resources</p> <p>Greater impacts to GHG emissions land use and planning, and noise</p> <p>Similar impacts to cultural resources, energy, and tribal cultural resources</p> <p>Less impact in all remaining issue areas</p> <p>Does not meet the project objectives nor does this alternative account for BESS component of the project.</p>

TABLE 1-7: COMPARISON OF ALTERNATIVES

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

TABLE 1-7: COMPARISON OF ALTERNATIVES

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative	Alternative 3: Reduced Acreage Alternative	Alternative 4: No Ground-Mounted Utility- Solar Alternative – Distributed Commercial and Industrial Rooftop Solar Only
Noise	Significant and Unavoidable (project and cumulative)	Less (NI)	Greater (SU)	Similar (SU)	Less (LTS)
Population and Housing	Less than Significant	Less (NI)	Greater (LTS)	Less (LTS)	Less (NI)
Public Services	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Similar (LTS)	Less (LTS)
Transportation	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Similar (LTS)	Less (LTS)
Tribal Cultural Resources	Less than Significant with Mitigation	Less (NI)	Similar (LTS)	Similar (LTS)	Less (NI)
Utilities and Service Systems	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Similar (LTS)	Less (LTS)
Wildfires	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Less (NI)	Greater (SU)	Less (SU)	Less (SU)
Meet Project Objectives?	All	None	None	Partially	Partially
Reduce Significant and Unavoidable Impacts?	N/A	All	Some	None	Some
NI = No Impact LTS = Less than Significant SU = Significant and Unavoidable					

Alternative 1: No Project Alternative

The *CEQA Guidelines* require EIRs to include a No Project Alternative for the purpose of allowing decision makers to compare the effects of approving the proposed project versus a No Project Alternative. Accordingly, Alternative 1, the No Project Alternative, assumes that the development of the (up to) 128 MW PV solar facility or up to 60MW of battery energy storage and associated facilities on the 285-acre site would not occur. No gen-tie lines would be constructed. The No Project Alternative would not require a Conditional Use Permit (CUP) for construction and operation of a 128 MW solar 60 MW battery energy storage project, associated facilities and use of a temporary concrete batch plant. An amendment to the General Plan and Specific Plan circulation element along with public easement vacations would not be required. The No Project Alternative would maintain the current zoning, land use classifications, and existing land uses, which consist mostly of undeveloped desert vegetation. No physical changes would be made to the project site.

Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative

Alternative 2, the General Plan and Zoning Build-Out Alternative, would develop the project site to the maximum intensity allowed under the existing Kern County General Plan land use and zoning classifications. The project site is currently designated as 8.3 (Extensive Ag, 20-acre min), 8.5 (Resource Management, Minimum 20 Acre Size), 8.3/2.5 (Extensive Ag/Flood Hazard), 8.5/2.1 (Resource Management/Seismic Hazard), and 8.5/2.5 (Resource Management/Flood Hazard). According to the Kern County General Plan, the 4.1 (Accepted County Plan Areas) land use designation applies to areas where specific land use plans have already been prepared and approved. In the case of the project site, the southern portion of the project is within the boundaries of the Willow Springs Specific Plan. The Willow Springs Specific Plan designates portions of the site as 5.7 (Minimum 5 Gross Acres/Unit), 5.75 (Minimum 10 Gross Acres/Unit), 5.8 (Minimum 20 Gross Acres/Unit), and 5.8/2.1 (Residential – Minimum 20 Gross Acres/Unit/Seismic Hazard).

The project site has various zone classifications which include; A (Exclusive Agriculture), A FP (Exclusive Agriculture – Floodplain Combining), A FPS (Exclusive Agriculture – Floodplain Secondary Combining), A GH (Exclusive Agriculture – Geologic Hazard Combining), A GH FPS (Exclusive Agriculture – Geologic Hazard Combining – Floodplain Secondary Combining), E-2.5 RS FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-5 RS FPS (Estate Residential – 5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-10 RS FPS (Estate Residential – 10 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-10 RS GH FPS (Estate Residential – 10 acres Minimum – Residential Suburban Combining – Geologic Hazard Combining – Floodplain Secondary Combining), E-10 RS MH FPS (Estate Residential – 10 acres Minimum – Mobile Home Combining – Floodplain Secondary Combining), E-20 RS FPS (Estate Residential – 20 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-20 RS GH FPS (Estate Residential – 20 acres Minimum – Residential Suburban Combining – Geologic Hazard Combining – Floodplain Secondary Combining), and PL RS FPS (Platted Lands – Residential Suburban Combining – Floodplain Secondary Combining).

Implementation of Alternative 2 would consist of developing the project site under the current land use classification of 4.1 (Willow Springs Specific Plan), 8.3 (Extensive Ag, 20-acre min), 8.5 (Resource Management, Minimum 20 Acre Size), 8.3/2.5 (Flood Hazard), 8.5/2.5 (Extensive Ag/Flood Hazard), and 8.5/2.1 (Resource Management/Seismic Hazard), and 8.5/2.5 (Resource Management/Flood Hazard). The

8.3 (Extensive Agriculture, 20-acre minimum) land use designation applies to agricultural uses involving large amounts of land with relatively low value per acre yields. Typical uses include livestock grazing, farming and woodlands. The minimum allowable parcel size in the 8.3 (Extensive Agriculture, 20-acre minimum) land use designation is 20 acres gross, except lands subject to a Williamson Act Contract/Farmland Security Zone Contract, in which case the minimum parcel size is 80 acres gross. The 8.5 (Resource Management, 20-acre minimum) land use designation applies primarily to open space lands containing important resources, such as wildlife habitat, scenic values, or watershed recharge areas. Typical uses include livestock grazing, farming and ranching, nature preserves, water storage and groundwater recharge areas, irrigated croplands, and open space and recreation. The minimum allowable parcel size in the 8.5 (Resource Management, 20-acre minimum) land use designation is 20 acres gross.

Given that the zoning designation for the project site is A (Exclusive Agriculture), A FP (Exclusive Agriculture – Floodplain Combining), A FPS (Exclusive Agriculture – Floodplain Secondary Combining), A GH (Exclusive Agriculture – Geologic Hazard Combining), A GH FPS (Exclusive Agriculture – Geologic Hazard Combining – Floodplain Secondary Combining), E-2.5 RS FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-5 RS FPS (Estate Residential – 5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-10 RS FPS (Estate Residential – 10 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-10 RS GH FPS (Estate Residential – 10 acres Minimum – Residential Suburban Combining – Geologic Hazard Combining – Floodplain Secondary Combining), E-10 RS MH FPS (Estate Residential – 10 acres Minimum – Mobile Home Combining – Floodplain Secondary Combining), E-20 RS FPS (Estate Residential – 20 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-20 RS GH FPS (Estate Residential – 20 acres Minimum – Residential Suburban Combining – Geologic Hazard Combining – Floodplain Secondary Combining), and PL RS FPS (Platted Lands – Residential Suburban Combining – Floodplain Secondary Combining), the project site would be developed in accordance with those designations. The portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and the portions of the project site zoned PL RS FPS would be developed with single-family residential units as well (approximately 27 acres). No solar facilities would be developed under this alternative.

Alternative 3: Reduced Acreage Alternative

Under Alternative 3, the Reduced Acreage Alternative, the project site would be reduced to the portion of the project site outside of the Willow Springs Specific Plan. This alternative would reduce the project's footprint from 2,285 acres to 987 acres and would only allow construction on the northern site. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1, 3, and 4, would extend their lines to connect with the western boundary of the reduced site. Gen-tie option 2 would continue to extend from the north portion of the site. The reduced project acreage under this alternative is still expected to contain enough land to construct a solar array field capable of generating approximately 55 MW, with up to 26 MW of Battery Storage capacity due to the proportional reduction in project size. Similar to the proposed project, this alternative would still require the approval of four CUPs: to allow for the construction and operation of 55 MW photovoltaic electrical generating facility with up to 26 MW of BESS (Section 19.12.030.G) with associated facilities (substation, O&M facility) in an A District; to allow the operation of a temporary concrete batch plant (19.12.030.G) in an A District; to allow a construction microwave tower (19.12.030.F) in the A zone district; a general plan amendment to the circulation element to allow for the removal of section and mid-section lines; and to allow vacation of existing public access easements on the project site.

Alternative 4: No Ground-Mounted Utility-Solar Development

Alternative – Distributed Commercial and Industrial Rooftop Solar Only

Alternative 4, the No Ground-Mounted Utility-Solar Development Alternative, would involve the development of a number of geographically distributed small to medium solar PV systems (100 kWh to 1 MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities situated throughout the 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 2,285 acres of total rooftop area) may be required to attain project's capacity of 128 MW of solar PV generating capacity. Because of space or capital cost constraints, many rooftop solar PV systems would be fixed-axis systems or would not include the same type of sun-tracking equipment that would be installed in a freestanding utility-scale solar PV project and, therefore, would not attain the same level of efficiency with respect to solar PV generation. Alternative 4 would generate 128 MW of electricity, but it would be for on-site use only. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. Similar to the project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. Power generated by such distributed solar PV systems would typically be consumed on-site by the commercial or industrial facility without requiring the construction of new electrical substation or transmission facilities. **Table 1-6, Summary of Development Alternatives**, provides a summary of the relative impacts and feasibility of each alternative.

1.7.3 Environmentally Superior Alternative

There are a number of factors in selecting the environmentally superior alternative. An EIR must identify the environmentally superior alternative to the project. Alternative 1, the No Project Alternative, would be environmentally superior to the project on the basis of its minimization or avoidance of physical environmental impacts. However, CEQA *Guidelines* Section 15126.6(e)(2) states:

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

Because the No Project Alternative cannot be the Environmentally Superior Alternative under CEQA, the Environmentally Superior Alternative is considered to be the No Ground-Mounted Utility-Solar Development Alternative. This alternative would avoid significant and unavoidable impacts to aesthetics, air quality and biological resources, and noise. 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 it would not include up to 60 MW of BESS. This alternative could potentially result in greater impacts to land use and wildfire risks due to the numerous power lines that would be required to harness the distributed solar panel energy. However, the No Ground-Mounted Utility-Solar Development Alternative would reduce the significant and unavoidable impact as it relates to construction noise. In addition, this alternative would result in less impact to aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources, geology and

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

It is important to note that it is considered to be impracticable and infeasible to construct the No Ground-Mounted Utility-Solar Development Alternative within the same timeframe and/or with the same efficiency as the proposed project because the project proponent lacks control and access to the sites required to develop 128 MW of distributed solar generated electricity and the required land associated to support up to 60 MW of BESS. In addition, this alternative would not achieve the project objective of assisting California load-serving entities in meeting their obligations under California's RPS Program. Nonetheless, because this alternative reduces impacts to a greater degree than the General Plan and Zoning Build-Out Alternative and Reduced Acreage Alternative, the No Ground-Mounted Utility-Solar Development Alternative is considered the Environmentally Superior Alternative.

1.8 Areas of Controversy

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

- Impacts to air quality;
- Impacts to biological resources;
- Impacts related to cultural resources;
- Impacts to hydrology and water quality;
- Impacts to utilities and service systems (water supplies).

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 1-8, *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 4-18 of this EIR. Refer to the appropriate EIR section for additional information.

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Kern County BigBeau Solar			
4.1 Aesthetics			
Impact 4.1-1: The project would have a substantial adverse effect on a scenic vista.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.1-2: The project would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.1-3: The project would, in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.	Significant and unavoidable	MM 4.1-1: Prior to issuance of a grading or building permit, a Maintenance, Trash Abatement, and Pest Management Program shall be submitted to the Kern County Planning and Natural Resources Department. The program shall include, but not be limited to the following: 1. The project proponent/operator shall clear debris from the project area at least twice per year; this can be done in conjunction with regular panel washing and site maintenance activities. 2. 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. 3. 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	Significant and unavoidable

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>implemented. Locations of all trash receptacles during operation of the project shall be shown on final plans.</p> <p>4. 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>MM 4.1-2: Prior to the issuance of the building permit for the solar facility, the project proponent/operator shall provide evidence for the following:</p> <p>The project proponent/operator shall 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. Any color treatments shall result in matte or nonglossy finishes.</p> <p>MM 4.1-3: Wherever possible, within the proposed project boundary the natural vegetation shall remain undisturbed. Where disturbance of natural vegetation is necessary that disturbance shall occur in the manner that results in the greatest retention of root balls and native topsoil with mowing being the preferred and primary method of cleaning. All natural vegetation adjacent to the proposed project boundary shall remain in place. Prior to the commencement of project operations and decommissioning, the project proponent/operator shall submit a Landscape Revegetation and Restoration Plan for the project site to the Kern County Planning and Natural Resources Department for review and approval. The plan shall include the measures detailed below.</p> <p>1. 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 re-vegetate with the existing native seed bank in the top soil where</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>possible to establish revegetation. Areas that contain permanent features such as perimeter roads, maintenance roads or under arrays do not require revegetation.</p> <ol style="list-style-type: none"> The plan must include but is not limited to: (1) the approved California native seed mix that will be used onsite, (2) a timeline for seeding the site, (3) the details of which areas are to be revegetated, and a clear prohibition of the use of toxic rodenticides. Ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place, as needed to establish re-vegetation. The seed mix or native plants shall be determined through consultation with professionals such as landscape architect(s), horticulturist(s), botanist(s), etc. with local knowledge as shown on submitted resume and shall be approved by the Kern County Planning and Natural Resources Department prior to planting. Phased seeding may be used if a phased construction approach is used (i.e., the entire site need not be seeded all at the same time). Vegetation ground cover shall be continuously maintained on the site by the project operator to maintain fire safety requirements. The re-vegetation and restoration of the site shall be monitored annually for a three-year period following restoration activities that occur post-construction and post-decommissioning. Based on annual monitoring visits during these three-year periods, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for the three-year period. Should efforts to revegetate prove in the second year to not be successful re-evaluation of revegetation methods shall be made in consultation with the Kern County Planning and Natural Resources Department and an additional year shall be 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.1-4: The project would create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.:	Potentially Significant	<p>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.</p> <p>MM 4.1-4: 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>MM 4.1-5: Prior to the issuance of building permits, the project proponent shall demonstrate the solar panels and hardware are designed to minimize glare and spectral highlighting. Emerging technologies shall be used, such as diffusion coatings and nanotechnological innovations, to effectively reduce the refractive index of the solar cells and 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.</p> <p>MM 4.1-6: Prior to the issuance of a building permit, the project operator shall demonstrate that all on-site buildings will utilize nonreflective materials, as approved by the Kern County Planning and Natural Resources Department.</p>	Less than Significant
Impact 4.1: Cumulative Impacts	Significant and unavoidable	Implement Mitigation Measures MM 4.1-1 through 4.1-6	Significant and unavoidable

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.2 Agriculture and Forestry Resources			
Impact 4.2-1: The project would not Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.2-2: The project would conflict with existing zoning for agricultural use or Williamson Act Contract.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.2: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
4.3 Air Quality			
Impact 4.3-1: The project would conflict with or obstruct implementation of the applicable air quality plan.	Potentially significant	MM 4.3-1: Implement Diesel Emission-Reduction Measures During Construction. To control NO _x and PM emissions during construction, the project proponent/operator and/or its contractor(s) shall implement the following measures during construction of the project, subject to verification by the County: <ul style="list-style-type: none"> a) Off-road equipment engines over 25 horsepower shall be equipped with EPA Tier 3 or higher engines, unless Tier 3 construction equipment is not locally available. b) All equipment shall be maintained in accordance with the manufacturer's specifications. c) 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. d) Notification shall be provided to trucks and vehicles in loading or unloading queues that their engines shall be turned off when not in use for more than 5 minutes. e) Electric equipment shall be used to the extent feasible in lieu of diesel or gasoline-powered equipment. 	Significant and Unavoidable

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> f) All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NOX emissions. g) On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines. h) Existing electric power sources shall be used to the extent feasible. This measure would minimize the use of higher polluting gas or diesel generators. i) The hours of operation of heavy-duty equipment and/or the quantity of equipment in use shall be limited to the extent feasible. <p>MM 4.3-2: Implement Fugitive Dust Control Plan During Construction. To control fugitive PM emissions during construction, prior to the issuance of grading or building permits and any earthwork activities, the project proponent shall prepare a comprehensive Fugitive Dust Control Plan for review by the Kern County Planning and Natural Resources Department. The plan shall include all EKAPCD-recommended measures, including but not limited to, the following:</p> <ul style="list-style-type: none"> a) All soil being actively excavated or graded shall be sufficiently water to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soils areas. Watering shall take place a minimum of three times daily where soil is being actively disturbed, unless dust is otherwise controlled by rainfall or use of a dust suppressant. b) Vehicle speed for all on site (i.e., within the project boundary) construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. Signs identifying construction vehicle speed limits shall be posted along onsite roadways, at the site entrance/exit, and along unpaved site access roads. 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> c) Vehicle speeds on all offsite unpaved roads (i.e., outside the project boundary) construction vehicles shall not exceed 25 mph. Signs identifying vehicle speed limits shall be posted along unpaved site access roads and at the site entrance/exit. d) All onsite unpaved roads and offsite unpaved public project-site access road(s) shall be effectively stabilized of dust emissions using water or EKAPCD-approved dust suppressants/palliatives, sufficient to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. If water is used, watering shall occur a minimum of three times daily, sufficient to keep soil moist along actively used roadways. During the dry season, unpaved road surfaces and vehicle parking/staging areas shall be watered immediately prior to periods of high use (e.g., worker commute periods, truck convoys). Reclaimed (non-potable) water shall be used to the extent available and feasible. e) The amount of the disturbed area (e.g., grading, excavation) shall be reduced and/or phased where possible. f) All disturbed areas shall be sufficiently watered or stabilized by EKAPCD-approved methods to prevent excessive dust. On dry days, watering shall occur a minimum of three times daily on actively disturbed areas. Watering frequency shall be increased whenever wind speeds exceed 15 mph or, as necessary, to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. Reclaimed (non-potable) water shall be used to the extent available and feasible. g) All clearing, grading, earth moving, and excavation activities shall cease during periods when dust plumes of 20 percent or greater opacity affect public roads or nearby occupied structures. 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> h) All disturbed areas anticipated to be inactive for periods of 30 days or more shall be treated to minimize wind-blown dust emissions. Treatment may include, but is not limited to, the application of an EKAPCD-approved chemical dust suppressant, gravel, hydro-mulch, revegetation/seeding, or wood chips. i) All active and inactive disturbed surface areas shall be compacted, where feasible. j) Equipment and vehicle access to disturbed areas shall be limited to only those vehicles necessary to complete the construction activities. k) Where applicable, permanent dust control measures shall be implemented as soon as possible following completion of any soil-disturbing activities. l) Stockpiles of dirt or other fine loose material shall be stabilized by watering or other appropriate methods sufficient to reduce visible dust emissions to a limit of 20 percent opacity. If necessary and where feasible, three-sided barriers shall be constructed around storage piles and/or piles shall be covered by use of tarps, hydro-mulch, woodchips, or other materials sufficient to minimize wind-blown dust. m) Water shall be applied prior to and during the demolition of onsite structures sufficient to minimize wind-blown dust n) Where acceptable to the fire department and feasible, weed control shall be accomplished by mowing instead of disking, thereby leaving the ground undisturbed and with a mulch covering. o) All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least 2 feet of freeboard (minimum vertical distance between top of the load and top of the trailer) in accordance with California Vehicle Code Section 23114. 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>p) Gravel pads, grizzly strips, or other material track-out control methods approved for use by EKAPCD shall be installed where vehicles enter or exit unpaved roads onto paved roadways.</p> <p>q) Haul trucks and off-road equipment leaving the site shall be washed with water or high-pressure air, and/or rocks/grates at the project entry points shall be used, when necessary, to remove soil deposits and minimize the track-out/deposition of soil onto nearby paved roadways.</p> <p>r) During construction paved road surfaces adjacent to the site access road(s), including adjoining paved aprons, shall be cleaned, as necessary, to remove visible accumulations of track-out material. If dry sweepers are used, the area shall be sprayed with water prior to sweeping to minimize the entrainment of dust. Reclaimed water shall be used to the extent available.</p> <p>s) Portable equipment, 50 horsepower or greater, used during construction activities (e.g., portable generators, temporary concrete batch plant) shall require California statewide portable equipment registration (issued by CARB) or an EKAPCD permit.</p> <p>t) The Fugitive Dust Control Plan shall identify a designated person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures, as necessary, to minimize the transport of dust off site and to ensure compliance with identified fugitive dust control measures. Contact information for a hotline shall be posted on site for any should any complaints or concerns be received during working hours and holidays and weekend periods when work may not be in progress. The names and telephone numbers of such persons shall be provided to the EKAPCD Compliance Division prior to the start of any grading or earthwork.</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> u) Signs shall be posted at the project site entrance and written notifications shall be provided a minimum of 30 days prior to initiation of project construction to residential land uses located within 1,000 feet of the project site. The signs and written notifications shall include the following information: (a) Project Name; (b) Anticipated Construction Schedule(s); and (c) Telephone Number(s) for designated construction activity monitor(s) or, if established, a complaint hotline. v) The designated construction monitor shall document and immediately notify EKAPCD of any air quality complaints received. If necessary, the project operator and/or contractor will coordinate with EKAPCD to identify any additional feasible measures and/or strategies to be implemented to address public complaints. w) Prior to construction of any concrete batch plant, the project proponent shall provide EKAPCD with documentation ensuring that any concrete batch plants will be sited at least 1,000 feet from sensitive receptors, including places such as daycare centers, hospitals, senior care facilities, residences, parks, and other areas where people may congregate. The concrete batch plant shall implement typical control measures to reduce fugitive dust, such as water sprays, enclosures, hoods, curtains, shrouds, movable and telescoping chutes, central dust collection systems, and other suitable technology, to reduce emissions to be equivalent to the EPA AP-42 controlled emission factors for concrete batch plants. The contractor shall provide EKAPCD with documentation that each batch plant meets this standard during operation. 	
Impact 4.3-2: The project would expose sensitive receptors to substantial pollutant concentrations.	Potentially significant	MM 4.3-3: Minimize Exposure to Potential Valley Fever–Containing Dust. To minimize personnel and public exposure to potential Valley Fever–containing dust on and off site, the following control measures shall be implemented during project construction:	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ol style="list-style-type: none"> 1. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved off site to other work locations. 2. 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. 3. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area. 4. 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. 5. All heavy-duty earth-moving vehicles shall be closed-cab and equipped with a HEP-filtered air system. 6. Workers shall receive training 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. 7. A Valley Fever informational handout shall be provided to all onsite construction personnel. The handout shall, at a minimum, provide information regarding the symptoms, health effects, preventative measures, and treatment. Additional information and handouts can be obtained by contacting the Kern County Public Health Services Department. 8. Onsite personnel shall be trained on the proper use of personal protective equipment, including respiratory equipment. National Institute for Occupational Safety and Health-approved respirators shall be provided to onsite 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		personal, upon request. Evidence of training shall be provided to the Kern County Planning. MM 4.3-4: 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.	
Impact 4.3-3: Construction and operation of the project would result in a cumulatively considerable net increase of any criteria pollutant for which the projects' region is nonattainment under applicable federal or State ambient air quality standards.	Potentially significant	Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-4 is required.	Significant and unavoidable
Impact 4.3: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 is required.	Significant and Unavoidable
4.4 Biological Resources			
Impact 4.4-1: The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Potentially significant	MM 4.4-1: Biological Monitoring. 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 U.S. Fish and Wildlife Service (USFWS) to oversee compliance with protection measures for all listed and other special-status species. The Lead Biologist shall be on the project site during construction of perimeter fencing and grading activities throughout the construction phase. The Lead Biologist shall have the right to halt all activities that are in violation of the special-status species protection measures. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. The Lead Biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted on the project site. MM 4.4-2: Construction Worker Environmental Awareness Training and Education Program. Prior to the issuance of grading or building permits and for the duration of construction	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>activities, within one week of employment all new construction workers at the project site, laydown area and/or transmission routes shall attend an Environmental Awareness Training and Education Program, developed and presented by the Lead Biologist. Any employee responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Environmental Awareness Training and Education Program.</p> <p>The program shall include information on the life history of the desert tortoise; burrowing owl; golden eagle, Swainson's hawk, and other raptors; nesting birds; American badger; desert kit fox; as well as other wildlife and plant species that may be encountered during construction activities. The program shall also discuss the legal protection status of each species, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the project operator is implementing to protect the species, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species, and penalties for violation of the Federal Endangered Species Act or California Endangered Species Act.</p> <ul style="list-style-type: none"> i. An acknowledgement form signed by each worker indicating that Environmental Awareness Training and Education Program has been completed would be kept on record; ii. A sticker shall be placed on hard hats indicating that the worker has completed the Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker; iii. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Environmental Awareness Training and Education Program and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Community Development Department; and</p> <p>iv. The construction crews and contractor(s) shall be 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>v. An Operation and Maintenance-phase version of the WEAP will be maintained within the onsite O&M facility for review as may be necessary during the life of the project.</p> <p>MM 4.4-3: Avoidance and Protection of Biological Resources. During construction, operations and maintenance, and decommissioning the project operator shall implement the following general avoidance and protective measures:</p> <p>a) All proposed impact areas, including solar fields, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided.</p> <p>b) The project operator shall limit the areas of disturbance to the extent feasible. Parking areas, new roads, staging, storage, excavation, and disposal site locations 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>c) Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best Management Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (SWPPP). All detected</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>erosion shall be remedied within two days of discovery or as described in the SWPPP.</p> <p>d) To prevent inadvertent entrapment of desert kit foxes, American badgers, or other wildlife during construction, all excavated, steep-walled holes or trenches more than two feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks. All holes and trenches, whether covered or not, shall be inspected for trapped wildlife at the start and end of each workday. Before such holes or trenches are filled, they shall be thoroughly inspected by the Lead Biologist or approved biological monitor for trapped wildlife. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. If a listed species is found trapped, all work shall cease immediately. If the animal is apparently uninjured, then the Lead Biologist shall directly supervise the provision of escape structures and/or trench modification to allow the trapped animal to escape safely. Work shall not resume in the vicinity of the animal, and it shall be allowed to leave the work area and project site on its own. If the listed animal is injured, then the Lead Biologist or approved biological monitor shall immediately contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife to identify an individual with the appropriate permit or authorization to handle listed species, who shall bring the animal to a pre-identified wildlife rehabilitation or veterinary facility for care.</p> <p>e) Burrowing owls, mammals, and nesting birds may use construction pipes, culverts, or similar structures for refuge or nesting. All towers shall be of the monopole variety and all hollow vertical structures, such as solar mount poles, or fencing poles, shall be capped immediately after installation to prevent bird entrapment. Therefore, all construction pipes,</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until the Lead Biologist has been consulted and the animal has either moved from the structure on its own accord (for listed species) or until the animal has been captured and relocated (for non-listed species) by the Lead Biologist. If the animal is a listed species, then work shall immediately halt in the vicinity, and the animal shall be allowed to move from the structure and the work area of its own accord. The Lead Biologist will direct work stoppages near the animal to allow it to freely move out of the pipe and away from the work area. Listed species shall not be handled or captured by anyone without the appropriate permit or authorization.</p> <p>f) No vehicle or equipment parked on the project site shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own.</p> <p>g) 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.</p> <p>h) A speed limit of 15 miles per hour shall be enforced within the limits of the proposed project.</p> <p>i) A long-term trash abatement program shall be established for construction, operations and maintenance, 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.</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>j) Workers shall be prohibited from bringing pets and firearms to the project area and from feeding wildlife.</p> <p>k) Intentional killing or collection of any plant or wildlife species shall be prohibited.</p> <p>l) To enable kit foxes and other wildlife (e.g., American badger) to pass through the project site after construction, the security fence, and any permanent interior fencing shall be a wildlife friendly design that meets the goals of allowing wildlife to move freely through the project site during operation, leaving 4- to 7-inch openings or portals in the fence or the fence shall be raised 7 inches above the ground leaving a gap between the fence mesh and the ground. In the latter case the bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence.</p> <p>MM 4.4-4: Preconstruction Clearance Surveys. The Lead Biologist or approved biological monitor shall monitor all initial ground-disturbance activities and remain on-call throughout construction in the event a special-status species wanders into the project site.</p> <p>Preconstruction surveys for special-status species shall be conducted within the project boundaries by the Lead Biologist or approved biological monitor within 14 days of the start of any vegetation clearing or grading activities. Methodology for preconstruction surveys shall be appropriate for each potentially occurring species-status species and shall follow U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife preconstruction survey guidelines where appropriate. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days of the portion of the project site being disturbed. The Lead Biologist may use a variety of approaches (including but not limited to monitoring, track plates, and direct observation) and evidence (including burrow characteristics and presence of sign</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>such as scat and tracks) to determine burrow activity. If any evidence of occupation of the project site special-status species is observed, a buffer shall be established by a qualified biologist that results in sufficient avoidance, as described below.</p> <p>If desert tortoise are found on-site during subsequent surveys or biological monitoring activities, construction activities shall cease to avoid the potential for take and consultation with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be initiated to obtain the necessary incidental take permit authorizations or provide evidence such a permit is not required.</p> <p>Preconstruction surveys shall be conducted by a qualified biologist for the presence of American badger or desert kit fox dens within 14 days prior to commencement of construction activities. The surveys shall be conducted in areas of suitable habitat for American badger and desert kit fox, which includes desert scrub habitats. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site disturbed. If potential dens are observed and avoidance is feasible, the following buffer distances shall be established prior to construction activities:</p> <p style="padding-left: 40px;">Desert kit fox or American badger potential den: 50 feet.</p> <p style="padding-left: 40px;">Desert kit fox or American badger active den: 100 feet.</p> <p style="padding-left: 40px;">Desert kit fox or American badger natal den: 500 feet.</p> <p>If avoidance of the potential dens is not possible, the following measures are required to avoid potential adverse effects to the American badger and desert kit fox:</p> <p style="padding-left: 40px;">If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent American badgers or desert kit foxes from re-using them during construction.</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>If the qualified biologist determines that potential dens may be active, an on-site passive relocation program shall be implemented. This program shall consist of excluding American badgers or desert kit foxes from occupied burrows by installation of one-way doors at burrow entrances, monitoring of the burrow for seven days to confirm usage has been discontinued, and excavation and collapse of the burrow to prevent reoccupation. After the qualified biologist determines that American badgers or desert kit foxes have stopped using the dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction.</p> <p>During fencing and grading activities daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report documenting the effectiveness and practicality of the protection measures that are in place and making recommendations for modifying the measures to enhance species protection, as needed. The report shall also provide information on the overall activities conducted related to biological resources, including the Environmental Awareness Training and Education Program, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities. These monitoring reports shall be submitted to the Kern County Planning and Community Development Department and relevant resource agencies, as applicable, on a monthly basis along with copies of all survey reports.</p> <p>MM 4.4-5: Preconstruction Desert Tortoise Surveys. Within 14 days prior to the commencement of any ground-disturbing activities the project operator shall conduct preconstruction surveys for desert tortoise within the project area. The surveys shall be conducted in accordance with the U.S. Fish and Wildlife Service protocol (2010). If no burrows or tortoises are discovered during preconstruction surveys, no further mitigation is</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>necessary. The desert tortoise is a federally and state threatened species and consequently, impacts that would cause “take” of the species would require the issuance of Incidental Take Permits from both the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to comply with the Federal Endangered Species Act and California Endangered Species Act. If burrows or tortoises are identified on the project site during preconstruction surveys, the project operator shall be required to consult with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife regarding take coverage, and adhere to the following minimum conditions:</p> <ul style="list-style-type: none"> a) Develop a plan for desert tortoise translocation and monitoring prior to project construction. The plan shall provide the framework for implementing the following measures: <ul style="list-style-type: none"> i. If, upon consultation with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, it is determined by both resource agencies that a permanent tortoise proof exclusion fence is required, a fence shall be installed around all construction and operation areas prior to the initiation of earth disturbing activities, in coordination with a qualified biologist. The fence shall be designed in such a manner to allow other wildlife to access through the permanent security fence and be constructed of 0.5-inch mesh hardware cloth and extend 18 inches above ground and 12 inches below ground. Where burial of the fence is not possible, the lower 12 inches shall be folded outward against the ground and fastened to the ground so as to prevent desert tortoise entry. The fence shall be supported sufficiently to maintain its integrity, be checked at least monthly during construction and operations, and maintained when necessary by the project operator to ensure its integrity. Provisions shall be made for closing off the fence at the 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>point of vehicle entry. Common raven perching deterrents shall be installed as part of the fence construction.</p> <p>ii. An Authorized Biologist shall conduct a preconstruction survey for desert tortoise within the construction site, as well as before and after installation of desert tortoise exclusionary fencing (if required to be installed) and project security fencing. An Authorized Biologist has the appropriate education and experience to accomplish biological monitoring and mitigation tasks and is approved by the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service. Two surveys without finding any desert tortoises or new desert tortoise sign shall occur prior to declaring the site clear of desert tortoises.</p> <p>iii. All burrows that could provide shelter for a desert tortoise shall be hand-excavated prior to ground-disturbing activities.</p> <p>iv. An Authorized Biologist shall remain on site until all vegetation necessary for the construction of the project is cleared and, at a minimum, conduct site and fence inspections on a monthly basis throughout construction in order to ensure project compliance with mitigation measures.</p> <p>v. An Authorized Biologist shall remain on-call throughout fencing and grading activities in the event a desert tortoise wanders onto the project site.</p> <p>vi. Mitigation for permanent loss of occupied desert tortoise habitat shall be mitigated at a 1:1 ratio to reduce potential effects to less-than-significant levels. Mitigation can be achieved through purchase of credit from an existing mitigation bank, such as the Desert Tortoise Natural Area, private purchase of mitigation lands, or on-site preservation, as approved by the resource agencies.</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>b) A Raven Management Plan shall be developed for the project site. This plan shall include at a minimum:</p> <ul style="list-style-type: none"> i. Identification of all common raven nests within the project area during construction. ii. Weekly inspections during construction under all nests in the project area for evidence of desert tortoise predation (e.g., scutes, shells, etc.). If evidence of desert tortoise predation is noted, a report shall be submitted to the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and the Kern County Planning and Community Development Department within five calendar days; and iii. Provisions for the management of trash that could attract common ravens during the construction, operations and maintenance, and decommissioning phases of the proposed project. <p>MM 4.4-6: Preconstruction Burrowing Owl Surveys. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct preconstruction surveys of the permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows no fewer than 14 days prior to ground-disturbing activities (i.e., vegetation clearance, grading, tilling). The survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation 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. Surveys may be conducted concurrently with desert tortoise preconstruction surveys. As each burrow is investigated, surveying biologists shall also look for signs of American badger and desert kit fox. Copies of the survey results shall be submitted to California</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Department of Fish and Wildlife and the Kern County Planning and Community Development Department.</p> <p>If burrowing owls are detected on-site, no ground-disturbing activities shall be permitted within a buffer of no fewer than 100 meters (330 feet) from an active burrow during the breeding season (i.e., February 1 to August 31), unless otherwise authorized by California Department of Fish and Wildlife. During the non-breeding (winter) season (i.e., September 1 to January 31), ground-disturbing work can proceed as long as the work occurs no closer than 50 meters (165 feet) from the burrow. Depending on the level of disturbance, a smaller buffer may be established in consultation with California Department of Fish and Wildlife.</p> <p>If burrow avoidance is infeasible during the non-breeding season or during the breeding season (February 1 through August 31) where resident owls have not yet begun egg laying or incubation, or where the juveniles are foraging independently and capable of independent survival, a qualified biologist shall implement a passive relocation program in accordance with Appendix E1 (i.e., Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans) of the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation.</p> <p>If passive relocation is required, a qualified biologist shall prepare a Burrowing Owl Exclusion and Mitigation Plan and a Mitigation Land Management Plan in, accordance with the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation, for review by California Department of Fish and Wildlife prior to passive relocation activities. The Mitigation Land Management Plan shall include a requirement for the permanent conservation of offsite Burrowing Owl Passive Relocation Compensatory Mitigation. At a minimum, the following recommendations shall be implemented:</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> i. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions including decompacting soil and revegetating. ii. 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. iii. Permanently protect mitigation land through a conservation easement, deed restriction, or similar mechanism deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a California Department of Fish and Wildlife approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits. Land identified to mitigate for passive relocation of burrowing owl may be combined with other offsite mitigation requirements of the proposed project if the compensatory habitat is deemed suitable to support the species. 	
		<p>MM 4.4-7: Nesting Birds and Raptors. If construction is scheduled to commence during the non-nesting season (i.e., September 1 to January 31), no preconstruction surveys or additional measures are required. To avoid impacts to nesting birds in the project area, a qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat within the project site for construction activities that are initiated</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.4-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community, or jurisdictional waters, identified in local or regional plans, policies, or regulations or by CDFW or USFWS.	Potentially significant	<p>during the breeding season (i.e., February 1 to August 31). The raptor survey shall focus on potential nest sites (e.g., cliffs, large trees, windrows) within a 0.5-mile buffer around the project site. Surveys shall be conducted no more than 14 days prior to construction activities. Surveys need not be conducted for the entire project site at one time; they may be phased so that surveys occur shortly before a portion of the project site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer (e.g., 200–300 feet for common raptors; 0.5 mile for Swainson’s hawk; 30–50 feet for passerine species) shall be established around active nests and no construction within the buffer allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). For non-listed species, encroachment into the avoidance buffer may occur at the discretion of a qualified biologist; however, for State-listed species, consultation with CDFW shall occur prior to encroachment into the aforementioned buffers.</p> <p>Implementation of Mitigation Measure MM 4.9-2, as provided in Section 4.9, Hazards and Hazardous Materials, of this EIR</p> <p>MM 4.4-8: Prior to issuance of any grading or building permit, the project proponent/operator shall submit a final Jurisdictional Delineation report. A copy of this report shall also be provided to the Lahontan Regional Water Quality Control Board (RWQCB) and the County. The report shall include information as shown below as a plan if necessary and shall outline compliance to the following:</p> <ol style="list-style-type: none"> 1. Delineation of all jurisdictional features at the project site. Potential jurisdictional features (ephemeral drainages) within the project boundary identified in the jurisdictional delineation report that are not anticipated to be directly 	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>impacted by project related activities shall be avoided. This may be shown in plan form.</p> <ol style="list-style-type: none"> Any material/spoils generated from project activities shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative will be notified. <p>MM 4.4-9: Prior to ground disturbance activities that would impact aquatic features, the project proponent/operator shall be subject to provisions as identified below:</p> <ol style="list-style-type: none"> The project proponent/operator shall file a complete Report of Waste Discharge with the RWQCB to obtain Waste Discharge Requirements and shall also consult with California Department of Fish and Wildlife (CDFW) on the need for a streambed alteration agreement. Copies of reports shall be submitted to the County. Based on consultation with RWQCB and CDFW, if permits are required for the project site, appropriate permits shall be obtained prior to disturbance of jurisdictional resources. Compensatory mitigation for impacts to unvegetated streambeds/washes shall be identified prior to disturbance of the features at a minimum 1:1 ratio, as approved by the 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>RWQCB or CDFW either through on-site or off-site mitigation, or purchasing credits from an approved mitigation bank.</p> <p>4. The project proponent/operator shall comply with the compensatory mitigation required and proof of compliance, along with copies of permits obtained from RWQCB and/or CDFW, which shall be provided to the County.</p> <p>5. A Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared that outlines the compensatory mitigation in coordination with the RWQCB and CDFW.</p> <p>a. If on-site mitigation is proposed, the HMMP shall identify those portions of the site, such as relocated drainage routes, that contain suitable characteristics (e.g., hydrology) for restoration. Determination of mitigation adequacy shall be based on comparison of the restored habitat with similar, undisturbed habitat in the site vicinity (such as upstream or downstream of the site).</p> <p>b. The HMMP shall include remedial measures in the event that performance criteria are not met.</p> <p>c. If mitigation is implemented off site, mitigation lands shall be comprised of similar or higher quality and preferably located in Kern County. Off-site land shall be preserved through a deed restriction or conservation easement and the HMMP shall identify an approach for funding assurance for the long-term management of the conserved land. Alternatively, the applicant may purchase credits from an approved mitigation bank.</p> <p>d. Copies of any coordination, permits, etc., with RWQCB and CDFW shall be provided to the County.</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.4-3: The project would have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	No Impact	No mitigation would be required.	No Impact
Impact 4.4-4: The project would interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Potentially significant	MM 4.4-10: The project site shall be fenced to keep terrestrial wildlife species from entering the project site during construction, but will provide openings post-construction to enable wildlife to move freely through the project site during operation (e.g., create 4- to 7-inch portals or openings in the fence raising the fence 7 inches above the ground and knuckling the bottom of the fence [i.e., wrapping the fencing material back to form a smooth edge] to protect wildlife passing underneath). A desert tortoise exclusion fence is not required unless desert tortoise are found on site during the preconstruction surveys. This fencing shall be constructed of silt fence material, metal flashing, plastic sheeting, or other materials that will prohibit wildlife from climbing the fence or burrowing below the fence. The fencing shall be buried approximately 12 inches below the surface and extend a minimum of 30 inches above grade. Fencing shall be installed prior to issuance of grading or building permits and shall be maintained during all phases of construction and decommissioning. The fencing shall be inspected by a qualified biologist at a regular interval and immediately after all major rainfall events through the duration of construction and decommissioning activities. Any needed repairs to the fence shall be performed on the day of their discovery. Outside temporarily fenced exclusion areas, the project operator shall limit the areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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.	Potentially Significant	Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-10 is required.	Less than Significant
Impact 4.4-6: The project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan.	Potentially significant	Implementation of Mitigation Measures MM 4.4-1, MM 4.4-2, MM 4.4-4, and MM 4.4-5 is required.	Less than Significant
Impact 4.4: Cumulative Impacts	Significant and unavoidable	Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-10 would be required.	Significant and unavoidable
4.5 Cultural Resources			
Impact 4.5-1: The project would cause a substantial adverse change in the significance of a historical resource, as defined in <i>CEQA Guidelines</i> Section 15064.5.	Potentially significant	<p>MM 4.5-1: The project proponent/operator shall retain a Lead Archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior, 2011), to carry out all mitigation measures related to archaeological and unique historical resources. The contact information for this Lead Archaeologist shall be provided to the Kern County Planning and Natural Resources Department prior to the commencement of any construction activities on-site. Further, the Lead Archaeologist shall be responsible for ensuring the following employee training provisions are implemented during implementation of the project:</p> <p>a. Prior to commencement of any ground disturbing activities, the Lead Archaeologist in consultation with the Native American monitor(s) shall conduct a Cultural Resources Sensitivity Training for all personnel working on the proposed project. A Cultural Resources Sensitivity Training Guide approved by the Lead Archaeologist shall be provided to all personnel. A copy of the Cultural Resources Sensitivity Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training</p>	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>guide may be presented in video form. A copy of the proposed training materials shall be provided to the Planning and Natural Resources Department prior to the issuance of any grading or building permit.</p> <p>b. The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the Lead Archaeologist monitor for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources.</p> <p>c. A copy of the Cultural Resources Sensitivity Training Guide/Materials shall be kept on-site and available for all personnel to review and be familiar with as necessary. It is the responsibility of the Lead Archaeologist to ensure all employees receive appropriate training before the work on-site.</p> <p>MM 4.5-2: Prior to this issuance of any grading or building permit, the project operator shall submit to the Kern County Planning and Natural Resources Department a Cultural Resources Treatment Plan. The plan shall:</p> <ol style="list-style-type: none"> 1. Provide an overview of best management practices to be utilized during construction activities to ensure protection of cultural resources. 2. Outline the process for evaluation of any unanticipated cultural discoveries during project construction activities. 3. Include provisions showing how sites P-15-019560 through p-15-019566 will be avoided during construction and operational activities. <p>MM 4.5-3: During implementation of the project, the services of Native American Tribal Monitors, working under the supervision of the Lead Archaeologist as identified through consultation with</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>appropriate Native American tribes, shall be retained by the project proponent/operator to monitor, on a full-time basis, ground-disturbing activities associated with project-related construction activities, as follows:</p> <ol style="list-style-type: none"> 1. All initial excavation and initial ground-disturbing activities within the project site, shall be monitored by archaeological and Native American monitors. 2. The Lead Archaeologist, archaeological monitors, and Native American monitors shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. 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 Lead Archaeologist, archaeological monitor, and Native American monitor. 3. The archaeological monitor(s) shall keep daily logs and the Lead Archaeologist shall submit monthly written updates to the Kern County Planning and Natural Resources Department. After monitoring has been completed, the Lead Archaeologist shall prepare a monitoring report detailing the results of monitoring, which shall be submitted to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield. <p>MM 4.5-4: During implementation of the project, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as the Native American monitor. The Lead Archaeologist in consultation with the Native American monitor, 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.</p> <p>Consistent with CEQA Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the Lead 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. Diagnostic archaeological materials with research potential recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with a designated Native American monitor, shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.</p>	
Impact 4.5-2: The project would cause a substantial adverse change in the significance of an archaeological resource pursuant to <i>CEQA Guidelines</i> Section 15064.5.	Potentially significant	Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 is required.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.5-3: The project would not disturb any human remains, including those interred outside of formal cemeteries.	Potentially significant	MM 4.5-5: If human remains are uncovered during project construction, the project contractor shall immediately halt work within 100ft of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the California Environmental Quality Act Guidelines. If the County Coroner determines that the remains are Native American, the coroner shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per Public Resources Code 5097.98. Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (7100 et. seq.) directing identification of the next-of-kin will apply.	Less than significant
Impact 4.5: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-5 is required.	Less than significant
4.6 Energy			
Impact 4.6-1: The project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Potentially significant	Implementation of Mitigation Measure MM 4.3-1 is required, as provided in Section 4.3, Air Quality, of this EIR.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.6-2: The project would not 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
Impact 4.6: Cumulative Impacts	Less than significant	Implementation of Mitigation Measure MM 4.3-1 is required, as provided in Section 4.3, Air Quality, of this EIR.	Less than significant
4.7 Geology and Soils			
Impact 4.7-1: The project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, 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	No mitigation measures are required.	Less than significant
Impact 4.7-2: The project would not 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
Impact 4.7-3: The project would not 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.	Less than Significant	No mitigation measures are required.	Less than Significant
Impact 4.7-4: The project would not be located on expansive soils creating substantial direct or indirect risks to life or property.	Less than Significant	No mitigation measures are required.	Less than Significant
Impact 4.7-5: The project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.	Less than Significant	No mitigation measures are required.	Less than Significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.7-6: The project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially significant	<p>MM 4.7-1: The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (SVP, 2010), to carry out all mitigation measures related to paleontological resources.</p> <ol style="list-style-type: none"> 1. Prior to the start of any ground disturbing activities, the qualified paleontologist shall conduct a Paleontological Resources Awareness Training program for all construction personnel working on the project. A Paleontological Resources Awareness Training Guide approved by the qualified paleontologist shall be provided to all personnel. A copy of the Paleontological Resources Awareness Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form. 2. 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 onsite and available for all personnel to review and be familiar with as necessary. <p>MM 4.7-2: A qualified paleontologist or designated monitor shall monitor all ground-disturbing activity (with the exception of vibratory or hydraulic installation of tracking or mounting structures and foundations or supports) that occurs at a depth of 12 feet or deeper below ground surface in areas mapped as younger</p>	Less than Significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Quaternary alluvium and for all ground disturbance within the mapped older Quaternary Alluvium within the western portion of Gen-Tie Option 3, should that alternative be selected.</p> <ol style="list-style-type: none"> 1. 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"> a. 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. 2. 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. 3. Following the completion of construction, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources onsite. 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>MM 4.7-3: If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository.	
Impact 4.7: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3 is required.	Less than significant
4.8 Greenhouse Gases			
Impact 4.8-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.8-2: The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.8: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.9 Hazards and Hazardous Materials			
Impact 4.9-1: The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Potentially significant	<p>MM 4.9-1: Prior to the issuance of grading or building permits, the project proponent shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval.</p> <ol style="list-style-type: none"> 1. The hazardous materials business plan shall: <ol style="list-style-type: none"> a. Delineate hazardous material and hazardous waste storage areas. b. Describe proper handling, storage, transport, and disposal techniques. c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill. d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction. e. Establish public and agency notification procedures for spills and other emergencies, including fires. f. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site. 2. The project proponent 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. 3. A copy of the approved hazardous materials business plan shall be submitted to the Kern County Planning and Natural Resources Department. <p>Implement Mitigation Measure MM 4.17-1 as provided in Section 4.17, Utilities and Service Systems, of this EIR is required.</p>	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.9-2: The project would not 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>MM 4.9-2: The project proponent shall continuously comply with the following:</p> <ul style="list-style-type: none"> a. The construction contractor or project personnel shall use herbicides that are approved for use in California, and are appropriate for application adjacent to natural vegetation areas (i.e., non-agricultural use). Personnel applying herbicides shall have all appropriate state and local herbicide applicator licenses and comply with all state and local regulations regarding herbicide use. b. Herbicides shall be mixed and applied in conformance with the manufacturer's directions. c. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife. d. Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water. <p>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>Implementation of Mitigation Measures MM 4.9-1 and MM 4.17-1 is required.</p>	Less than significant
Impact 4.9-3: The project would emit hazardous emissions or involves handling hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.9-4: The project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	Less than significant	Implement Mitigation Measure MM 4.14-1 as provided in Section 4.14, Public Services, of this EIR is required.	Less than significant
Impact 4.9: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.14-1, and MM 4.17-1 is required.	Less than significant
4.10 Hydrology and Water Quality			
Impact 4.10-1: The project would not violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality.	Potentially significant	Implementation of Mitigation Measure MM 4.9-1 as provided in Section 4.9, Hazards and Hazardous Materials, of this EIR is required.	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.	Less than significant	No mitigation measures are required.	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.	Potentially significant	MM 4.10-1: Prior to the issuance of a grading permit, the project proponent shall complete a final drainage plan designed to evaluate and minimize potential increases in runoff from the project site. The study and plan shall include the following: <ol style="list-style-type: none"> 1. A numerical stormwater model for the project site that evaluates existing and proposed (with project) drainage conditions during storm events ranging up to the 100-year event. 2. An assessment 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. 3. 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 	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>flow concentration and changes in flow depth or velocity so as to minimize erosion, sedimentation, and flooding on-site or off-site.</p> <p>4. A specification that 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 panel sites located within a 100-year floodplain shall be graded to direct potential flood waters without increasing the water surface elevations more than 1 foot or as required by Kern County's Floodplain Ordinance.</p> <p>The drainage plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards and approved by the Kern County Public Works Department prior to the issuance of grading permits.</p>			
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.	Potentially significant	Implementation of Mitigation Measure MM 4.10-1 is required.	Less than significant
Impact 4.10-5: The project 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.	Less than significant	Implementation of Mitigation Measure MM 4.10-1 is required.	Less than significant
Impact 4.10-6: The project would contribute to inundation by a flood hazard, tsunami, or seiche zones, that would result in risk of release of pollutants.	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.10-7: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.10: Cumulative Impacts	Potentially Significant	Implementation of Mitigation Measure MM 4.10-1 is required.	Less than significant
4.11 Land Use			
Impact 4.11-1: The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.11: Cumulative Impacts	Potentially significant	MM 4.11-1: Prior to issuance of any building permit, the project operator shall provide for review and approval by the Kern County Engineering, Surveying, and Permit Services Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the deconstruction of the site as identified on the approved Decommission Plan in the event that at any point in time the project operator determines it is not in the company's best interest to operate the facility.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>The financial assurance required prior to issuance of any building permit shall be established using one of the following:</p> <ul style="list-style-type: none"> a) An irrevocable letter of credit; b) A surety bond; c) A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommission plan; or d) Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department. <p>The financial institution or Surety Company shall give the County at least 120 days' notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Engineering, Surveying, and Permit Services Department or County contracted consulting firm(s) at a cost to be borne by the project operator to substantiate those adequate funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommission Plan. Should the project operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance.</p> <p>Once deconstruction has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommission of the site by the County shall be returned to the project operator.</p> <p>Should any portion of the solar field not be in operational condition for a consecutive period of twelve 12 months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Natural Resources Department a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Natural Resources Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place for more than forty-eight (48) months from the date, the solar facility was first deemed abandoned.</p> <p>MM 4.11-2: Prior to the operation of the solar facility, the operator shall contact 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>			
4.12 Noise			
Impact 4.12-1: The project would result in 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.	Potentially significant	<p>MM 4.12-1: The following measures are to be implemented to further reduce short-term noise levels associated with project construction and decommissioning:</p> <p>a) Construction and decommissioning activities at the project site shall comply with the hourly restrictions for noise-generating construction activities, as specified in the County's Code of Ordinances, Chapter 8.36. Accordingly, construction activities shall be prohibited between the hours of 9:00 p.m. to 6:00 a.m. on weekdays, and between 9:00 p.m. to 8:00 a.m. on weekends. These hourly limitations shall not apply to activities where hourly limitations would result in increased safety risk to workers or the public, such as commissioning and maintenance activities that must occur after dark to ensure photovoltaic arrays are not energized,</p>	Significant and Unavoidable

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>unanticipated emergencies requiring immediate attention, or security patrols.</p> <p>b) Equipment staging and laydown areas shall be located at the furthest practical distance from nearby residential land uses. To the extent possible, staging and laydown areas should be located at least 500 feet of existing residential dwellings.</p> <p>c) Construction equipment shall be fitted with noise-reduction features such as mufflers and engine shrouds that are no less effective than those originally installed by the manufacturer.</p> <p>d) Haul trucks shall not be allowed to idle for periods greater than five minutes, except as needed to perform a specified function (e.g., concrete mixing).</p> <p>e) Onsite vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency).</p> <p>f) Back-up beepers for all construction equipment and vehicles shall be broadband sound alarms or adjusted to the lowest noise levels possible, provided that the Occupational Safety and Health Administration and California Division of Occupational Safety and Health's safety requirements are not violated. On vehicles where back-up beepers are not available, alternative safety measures such as escorts and spotters shall be employed.</p> <p>MM 4.12-2: Prior to the issuance of grading permits, a "noise disturbance coordinator" shall be established. The project operator shall submit evidence of methods of implementation and shall continuously comply with the following during construction: The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures such that the complaint is resolved.</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.12-2: The project would not generate excessive ground-borne vibration or ground-borne noise levels.	Less than significant	<p>MM 4.12-3: Prior to the issuance of grading permits, the project operator shall submit evidence of the following: Construction contracts shall specify that notices shall be sent out to all residences within 1,000 feet of the construction areas at least 15 days prior to commencement of construction. The notices shall include the construction's schedule and a telephone number where complaints can be registered with the noise disturbance coordinator. A sign legible at a distance of 50 feet shall also be posted at the construction site throughout construction, which includes the same details as the notices.</p>	
		<p>MM 4.12-4: The project shall be designed to ensure that operational noise levels at nearby sensitive receptors, depending on their location within or outside of the WSSP area, would not exceed the applicable WSSP or County noise standards. Techniques that can be incorporated into the BESS design to achieve compliance with the applicable noise standards may include, but are not limited to, the following:</p> <ul style="list-style-type: none"> Place HVAC units on the far side of the BESS containers relative to the nearest off-site sensitive receptors to allow the containers to act as a barrier to provide noise attenuation. Erect permanent noise barriers of sufficient height to attenuate noise levels from the BESS containers. Provide a sufficient buffer distance between the BESS containers and the nearest off-site receptor. The adequacy of the selected noise control technique(s) shall be demonstrated in an acoustical study submitted to and approved by the County prior to the issuance of building permits. 	
		No mitigation measures are required.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.12-3: The project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	Potentially significant	Implementation of Mitigation Measure MM 4.12-4 would be required	Less than significant
Impact 4.12: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.12-1 through MM 4.12-4 would be required.	Significant and Unavoidable
4.13 Population and Housing			
Impact 4.13-1: The project would induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.13-2: The project would displace substantial numbers of existing people or housing, necessitating that construction of replacement housing elsewhere.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.13: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
4.14 Public Services			
Impact 4.14-1: The project would result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services or law enforcement protection services.	Potentially significant	<p>MM 4.14-1: Prior to the issuance of grading or building permits, the project proponent/operator shall develop and implement a Fire Safety Plan for use during construction, operation and decommissioning.</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>	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ol style="list-style-type: none"> 1. All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order. 2. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory-installed (type) muffler in good condition. 3. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees. 4. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials. 5. 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. 6. The project proponent/operator shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel. <p>MM 4.14-2: The project proponent/operator shall implement the following mitigation steps at the project site:</p> <ol style="list-style-type: none"> 1. For facility operation, the project proponent/operator shall pay for impacts on countywide public protection, sheriff's patrol and investigative services, and fire services at a rate of \$29.59 per 1,000 square feet of panel-covered ground for the facility operation and related onsite structures for the entire covered area of the project. The total amount shall be divided by 20 and paid on a yearly basis. Any operations that continues past 20 years will pay the same yearly fee. If completed in phases, the annual amount shall be based on the 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>square footage of ground covered by April 30 of each year. The amount shall be paid to the Kern County Auditor/Controller by April 30 of each calendar year for each and every year of operation. Copies of payments made shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p>2. 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 \$1,000 per megawatt per year, then that entity shall pay the taxes plus the amount necessary to equal the equivalent of \$1,000 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>3. 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>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		4. 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 that provide skilled workers and shall require the contractor to advertise locally for available jobs, notifying the training programs of job availability, all in conjunction with normal hiring practices of the contractor.	
Impact 4.14: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.14-1 and MM 4.14-2 is required.	Less than significant
4.15 Transportation			
Impact 4.15-1: The project would conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as follows: Kern County General Plan LOS “D.”	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.15-2: The project would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards developed by the county congestion management agency for designated roads or highways.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.15-3: The project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Potentially significant	MM 4.15-1: Prior to the issuance of construction or building permits, the project proponent/operator shall: A. Prepare and submit a Construction Traffic Control Plan to Kern County Public Works Department- Development Review and the California Department of Transportation offices for District 9, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>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> <ul style="list-style-type: none"> i. Timing of deliveries of heavy equipment and building materials; ii. Directing construction traffic with a flag person; iii. 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; iv. Ensuring access for emergency vehicles to the project sites; v. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections; vi. Maintaining access to adjacent property; and vii. 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. <p>B. Obtain all necessary encroachment permits for the work within the road right-of-way or use of oversized/overweight vehicles that will utilize county maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Natural Resources Department, the Kern County Public Works Department-Development Review, and the California Department of Transportation.</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>C. Enter into a secured agreement with Kern County to ensure that any County roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and/or Kern County.</p> <p>D. Submit documentation that identifies the roads to be used during construction. The project proponent/operator shall be responsible for repairing any damage to non- county maintained roads that may result from construction activities. The project proponent/operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Public Work Department-Development Review and the Kern County Planning and Natural Resources Department.</p> <p>E. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in DVD format. The County, in consultation with the project proponent/operator's engineer, shall determine the extent of remediation required, if any.</p>	
Impact 4.15-4: The proposed project would result in inadequate emergency access.	Potentially significant	Implementation of Mitigation Measure MM 4.15-1 is required	Less than significant
Impact 4.15: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measure MM 4.15-1 is required	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.16 Tribal Cultural Resources			
Impact 4.16-1a: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).	Potentially significant	Implementation of Mitigation Measure MM 4.5-2 as provided in Section 4.5, Cultural Resources, of this EIR would be required.	Less than significant
Impact 4.16-1b: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Potentially significant	Implementation of Mitigation Measure MM 4.5-2 as provided in Section 4.5, Cultural Resources, of this EIR would be required.	Less than significant
Impact 4.16: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measure MM 4.5-2 would be required.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.17 Utilities and Service Systems			
Impact 4.17-1: The project would require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.	Potentially significant	Implementation of Mitigation Measure MM 4.10-1 as provided in Section 4.10, Hydrology and Water Quality, of this EIR would be required.	Less than significant
Impact 4.17-2: The project would result in a determination by the waste water treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.17-3: The project would not comply with Federal, State, and Local management and reduction statutes and regulations related to solid waste.	Potentially significant	MM 4.17-1: During construction and operation, debris and waste generated shall be recycled to the extent feasible. <ol style="list-style-type: none"> 1. An onsite Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Maintenance, Trash Abatement and Pest Management Program. 2. 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. 3. The onsite Recycling Coordinator shall also be responsible for ensuring wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal 4. Contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits. 5. The project proponent/operator shall provide a storage area for recyclable materials within the fenced project area that is 	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		clearly identified for recycling. This area shall be maintained on the site during construction, operations and decommissioning. A site plan showing the recycling storage area shall be submitted prior to the issuance of any grading or building permit for the site.	
Impact 4.17: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.10-1 and MM 4.17-1 would be required.	Less than significant
4.18 Wildfires			
Impact 4.18-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.	Less than significant	No mitigation measures are required.	No impact
Impact 4.18-2: The project would, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.18-3: The project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	Potentially Significant	Implement Mitigation Measure 4.14-1 as provided in Section 4.14, Public Services, of this EIR would be required.	Less than significant
Impact 4.18-4: The project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability, or drainage changes.	Potentially Significant	Implement Mitigation Measure 4.10-1 as provided in Section 4.10, Hydrology and Water Quality, of this EIR is required.	Less than significant
Impact 4.18: Cumulative Impacts	Potentially Significant	Implement Mitigation Measures MM 4.10-1 and MM 4.14-1 would be required.	Significant and unavoidable

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
California State Land Commission BigBeau Solar			
4.1 Aesthetics			
Impact 4.1-1: The project would have a substantial adverse effect on a scenic vista.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.1-2: The project would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.1-3: The project would, in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.	Potentially significant	MM 4.1-1: Prior to issuance of a grading or building permit, a Maintenance, Trash Abatement, and Pest Management Program shall be submitted to the appropriate agency for review and approval. The program shall include, but not be limited to, the following: <ol style="list-style-type: none"> 1. The project proponent/operator shall clear debris from the project area at least twice per year; this can be done in conjunction with regular panel washing and site maintenance activities. 2. 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 appropriate agency. 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 appropriate agency. 3. 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. 	Significant and unavoidable

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>4. 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>MM 4.1-2: Prior to the issuance of the building permit for the solar facility, the project proponent/operator shall provide evidence for the following:</p> <p>The project proponent/operator shall 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. Any color treatments shall result in matte or nonglossy finishes.</p> <p>MM 4.1-3: Wherever possible, within the proposed project boundary the natural vegetation shall remain undisturbed. Where disturbance of natural vegetation is necessary that disturbance shall occur in the manner that results in the greatest retention of root balls and native topsoil with mowing being the preferred and primary method of cleaning. All natural vegetation adjacent to the proposed project boundary shall remain in place. Prior to the commencement of project operations and decommissioning, the project proponent/operator shall submit a Landscape Revegetation and Restoration Plan for the project site to the appropriate agency for review and approval. The plan shall include the measures detailed below.</p> <p>1. 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 re-vegetate with the existing native seed bank in the top soil where possible to establish revegetation. Areas that contain permanent features such as perimeter roads, maintenance roads or under arrays do not require revegetation.</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ol style="list-style-type: none"> 2. The plan must include but is not limited to: (1) the approved California native seed mix that will be used onsite, (2) a timeline for seeding the site, (3) the details of which areas are to be revegetated, and a clear prohibition of the use of toxic rodenticides. 3. Ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place, as needed to establish re-vegetation. The seed mix or native plants shall be determined through consultation with professionals such as landscape architect(s), horticulturist(s), botanist(s), etc. with local knowledge as shown on submitted resume and shall be approved by the appropriate agency 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). 4. Vegetation ground cover shall be continuously maintained on the site by the project operator to maintain fire safety requirements. 5. The re-vegetation and restoration of the site shall be monitored annually for a three-year period following restoration activities that occur post-construction and post-decommissioning. Based on annual monitoring visits during these three-year periods, an annual evaluation report shall be submitted to the appropriate agency for the three- year period. Should efforts to revegetate prove in the second year to not be successful re-evaluation of revegetation methods shall be made in consultation with the appropriate agency 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 achieve native plant diversity, establishes perennials, and is consistent with conditions prior to implementation of the proposed project, where feasible. 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.1-4: The project would create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.	Potentially significant	<p>MM 4.1-4: Prior to final activation of the solar facility, the project proponent shall demonstrate to 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>MM 4.1-5: Prior to the issuance of building permits, the project proponent shall demonstrate the solar panels and hardware are designed to minimize glare and spectral highlighting. Emerging technologies shall be used, such as diffusion coatings and nanotechnological innovations, to effectively reduce the refractive index of the solar cells and 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 California State Lands Commission.</p> <p>MM 4.1-6: Prior to the issuance of a building permit, the project operator shall demonstrate that all on-site buildings will utilize nonreflective materials, as approved by the Kern County Planning and Natural Resources</p>	Less than significant
Impact 4.1: Cumulative Impacts	Potentially significant	Implementation of implementation of Mitigation Measures MM 4.1-1 through 4.1-6.	Significant and unavoidable

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.2 Agriculture and Forestry Resources			
Impact 4.2-1: The project would not Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.2-2: The project would conflict with existing zoning for agricultural use or Williamson Act Contract.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.2: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
4.3 Air Quality			
Impact 4.3-1: The project would conflict with or obstruct implementation of the applicable air quality plan.	Potentially significant	MM 4.3-1: Implement Diesel Emission-Reduction Measures During Construction. To control NO _x and PM emissions during construction, the project proponent/operator and/or its contractor(s) shall implement the following measures during construction of the project, subject to verification by the County: <ul style="list-style-type: none"> a) Off-road equipment engines over 25 horsepower shall be equipped with EPA Tier 3 or higher engines, unless Tier 3 construction equipment is not locally available. b) All equipment shall be maintained in accordance with the manufacturer's specifications. c) 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. d) Notification shall be provided to trucks and vehicles in loading or unloading queues that their engines shall be turned off when not in use for more than 5 minutes. e) Electric equipment shall be used to the extent feasible in lieu of diesel or gasoline-powered equipment. 	Significant and Unavoidable

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> f) All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NO_x emissions. g) On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines. h) Existing electric power sources shall be used to the extent feasible. This measure would minimize the use of higher polluting gas or diesel generators. i) The hours of operation of heavy-duty equipment and/or the quantity of equipment in use shall be limited to the extent feasible. <p>MM 4.3-2: Implement Fugitive Dust Control Plan During Construction. To control fugitive PM emissions during construction, prior to the issuance of grading or building permits and any earthwork activities, the project proponent shall prepare a comprehensive Fugitive Dust Control Plan for review by the Kern County Planning and Natural Resources Department. The plan shall include all EKAPCD-recommended measures, including but not limited to, the following:</p> <ul style="list-style-type: none"> a) All soil being actively excavated or graded shall be sufficiently water to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soils areas. Watering shall take place a minimum of three times daily where soil is being actively disturbed, unless dust is otherwise controlled by rainfall or use of a dust suppressant. b) Vehicle speed for all on site (i.e., within the project boundary) construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. Signs identifying construction vehicle speed limits shall be posted along onsite roadways, at the site entrance/exit, and along unpaved site access roads. 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> c) Vehicle speeds on all offsite unpaved roads (i.e., outside the project boundary) construction vehicles shall not exceed 25 mph. Signs identifying vehicle speed limits shall be posted along unpaved site access roads and at the site entrance/exit. d) All onsite unpaved roads and offsite unpaved public project-site access road(s) shall be effectively stabilized of dust emissions using water or EKAPCD-approved dust suppressants/palliatives, sufficient to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. If water is used, watering shall occur a minimum of three times daily, sufficient to keep soil moist along actively used roadways. During the dry season, unpaved road surfaces and vehicle parking/staging areas shall be watered immediately prior to periods of high use (e.g., worker commute periods, truck convoys). Reclaimed (non-potable) water shall be used to the extent available and feasible. e) The amount of the disturbed area (e.g., grading, excavation) shall be reduced and/or phased where possible. f) All disturbed areas shall be sufficiently watered or stabilized by EKAPCD-approved methods to prevent excessive dust. On dry days, watering shall occur a minimum of three times daily on actively disturbed areas. Watering frequency shall be increased whenever wind speeds exceed 15 mph or, as necessary, to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. Reclaimed (non-potable) water shall be used to the extent available and feasible. g) All clearing, grading, earth moving, and excavation activities shall cease during periods when dust plumes of 20 percent or greater opacity affect public roads or nearby occupied structures. 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> h) All disturbed areas anticipated to be inactive for periods of 30 days or more shall be treated to minimize wind-blown dust emissions. Treatment may include, but is not limited to, the application of an EKAPCD-approved chemical dust suppressant, gravel, hydro-mulch, revegetation/seeding, or wood chips. i) All active and inactive disturbed surface areas shall be compacted, where feasible. j) Equipment and vehicle access to disturbed areas shall be limited to only those vehicles necessary to complete the construction activities. k) Where applicable, permanent dust control measures shall be implemented as soon as possible following completion of any soil-disturbing activities. l) Stockpiles of dirt or other fine loose material shall be stabilized by watering or other appropriate methods sufficient to reduce visible dust emissions to a limit of 20 percent opacity. If necessary and where feasible, three-sided barriers shall be constructed around storage piles and/or piles shall be covered by use of tarps, hydro-mulch, woodchips, or other materials sufficient to minimize wind-blown dust. m) Water shall be applied prior to and during the demolition of onsite structures sufficient to minimize wind-blown dust n) Where acceptable to the fire department and feasible, weed control shall be accomplished by mowing instead of disking, thereby leaving the ground undisturbed and with a mulch covering. o) All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least 2 feet of freeboard (minimum vertical distance between top of the load and top of the trailer) in accordance with California Vehicle Code Section 23114. 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>p) Gravel pads, grizzly strips, or other material track-out control methods approved for use by EKAPCD shall be installed where vehicles enter or exit unpaved roads onto paved roadways.</p> <p>q) Haul trucks and off-road equipment leaving the site shall be washed with water or high-pressure air, and/or rocks/grates at the project entry points shall be used, when necessary, to remove soil deposits and minimize the track-out/deposition of soil onto nearby paved roadways.</p> <p>r) During construction paved road surfaces adjacent to the site access road(s), including adjoining paved aprons, shall be cleaned, as necessary, to remove visible accumulations of track-out material. If dry sweepers are used, the area shall be sprayed with water prior to sweeping to minimize the entrainment of dust. Reclaimed water shall be used to the extent available.</p> <p>s) Portable equipment, 50 horsepower or greater, used during construction activities (e.g., portable generators, temporary concrete batch plant) shall require California statewide portable equipment registration (issued by CARB) or an EKAPCD permit.</p> <p>t) The Fugitive Dust Control Plan shall identify a designated person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures, as necessary, to minimize the transport of dust off site and to ensure compliance with identified fugitive dust control measures. Contact information for a hotline shall be posted on site for any should any complaints or concerns be received during working hours and holidays and weekend periods when work may not be in progress. The names and telephone numbers of such persons shall be provided to the EKAPCD Compliance Division prior to the start of any grading or earthwork.</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> u) Signs shall be posted at the project site entrance and written notifications shall be provided a minimum of 30 days prior to initiation of project construction to residential land uses located within 1,000 feet of the project site. The signs and written notifications shall include the following information: (a) Project Name; (b) Anticipated Construction Schedule(s); and (c) Telephone Number(s) for designated construction activity monitor(s) or, if established, a complaint hotline. v) The designated construction monitor shall document and immediately notify EKAPCD of any air quality complaints received. If necessary, the project operator and/or contractor will coordinate with EKAPCD to identify any additional feasible measures and/or strategies to be implemented to address public complaints. w) Prior to construction of any concrete batch plant, the project proponent shall provide EKAPCD with documentation ensuring that any concrete batch plants will be sited at least 1,000 feet from sensitive receptors, including places such as daycare centers, hospitals, senior care facilities, residences, parks, and other areas where people may congregate. The concrete batch plant shall implement typical control measures to reduce fugitive dust, such as water sprays, enclosures, hoods, curtains, shrouds, movable and telescoping chutes, central dust collection systems, and other suitable technology, to reduce emissions to be equivalent to the EPA AP-42 controlled emission factors for concrete batch plants. The contractor shall provide EKAPCD with documentation that each batch plant meets this standard during operation. 	
Impact 4.3-2: The project would expose sensitive receptors to substantial pollutant concentrations.	Potentially significant	MM 4.3-3: Minimize Exposure to Potential Valley Fever–Containing Dust. To minimize personnel and public exposure to potential Valley Fever–containing dust on and off site, the following control measures shall be implemented during project construction:	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ol style="list-style-type: none"> 1. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved off site to other work locations. 2. 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. 3. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area. 4. 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. 5. All heavy-duty earth-moving vehicles shall be closed-cab and equipped with a HEP-filtered air system. 6. Workers shall receive training 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. 7. A Valley Fever informational handout shall be provided to all onsite construction personnel. The handout shall, at a minimum, provide information regarding the symptoms, health effects, preventative measures, and treatment. Additional information and handouts can be obtained by contacting the Kern County Public Health Services Department. 8. Onsite personnel shall be trained on the proper use of personal protective equipment, including respiratory equipment. National Institute for Occupational Safety and Health-approved respirators shall be provided to onsite personnel, upon request. Evidence of training shall be provided 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		to the Kern County Planning and Natural Resources Department within 5 days of the training session. MM 4.3-4: 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.	
Impact 4.3-3: Construction and operation of the project would result in a cumulatively considerable net increase of any criteria pollutant for which the projects' region is nonattainment under applicable federal or State ambient air quality standards.	Potentially significant	Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-4 is required.	Significant and Unavoidable
Impact 4.3: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 is required.	Significant and Unavoidable
4.4 Biological Resources			
Impact 4.4-1: The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Potentially significant	MM 4.4-1: Biological Monitoring. 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 U.S. Fish and Wildlife Service (USFWS) to oversee compliance with protection measures for all listed and other special-status species. The Lead Biologist shall be on the project site during construction of perimeter fencing and grading activities throughout the construction phase. The Lead Biologist shall have the right to halt all activities that are in violation of the special-status species protection measures. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. The Lead Biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted on the project site. MM 4.4-2: Construction Worker Environmental Awareness Training and Education Program. Prior to the issuance of grading or building permits and for the duration of construction	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>activities, within one week of employment all new construction workers at the project site, laydown area and/or transmission routes shall attend an Environmental Awareness Training and Education Program, developed and presented by the Lead Biologist. Any employee responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Environmental Awareness Training and Education Program.</p> <p>The program shall include information on the life history of the desert tortoise; burrowing owl; golden eagle, Swainson's hawk, and other raptors; nesting birds; American badger; desert kit fox; as well as other wildlife and plant species that may be encountered during construction activities. The program shall also discuss the legal protection status of each species, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the project operator is implementing to protect the species, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species, and penalties for violation of the Federal Endangered Species Act or California Endangered Species Act.</p> <ul style="list-style-type: none"> i. An acknowledgement form signed by each worker indicating that Environmental Awareness Training and Education Program has been completed would be kept on record; ii. A sticker shall be placed on hard hats indicating that the worker has completed the Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker; iii. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Environmental Awareness Training and Education Program and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Community Development Department; and</p> <p>iv. The construction crews and contractor(s) shall be 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>v. An Operation and Maintenance-phase version of the WEAP will be maintained within the onsite O&M facility for review as may be necessary during the life of the project.</p> <p>MM 4.4-3: Avoidance and Protection of Biological Resources. During construction, operations and maintenance, and decommissioning the project operator shall implement the following general avoidance and protective measures:</p> <p>a) All proposed impact areas, including solar fields, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided.</p> <p>b) The project operator shall limit the areas of disturbance to the extent feasible. Parking areas, new roads, staging, storage, excavation, and disposal site locations 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>c) Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best Management Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (SWPPP). All detected</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>erosion shall be remedied within two days of discovery or as described in the SWPPP.</p> <p>d) To prevent inadvertent entrapment of desert kit foxes, American badgers, or other wildlife during construction, all excavated, steep-walled holes or trenches more than two feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks. All holes and trenches, whether covered or not, shall be inspected for trapped wildlife at the start and end of each workday. Before such holes or trenches are filled, they shall be thoroughly inspected by the Lead Biologist or approved biological monitor for trapped wildlife. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. If a listed species is found trapped, all work shall cease immediately. If the animal is apparently uninjured, then the Lead Biologist shall directly supervise the provision of escape structures and/or trench modification to allow the trapped animal to escape safely. Work shall not resume in the vicinity of the animal, and it shall be allowed to leave the work area and project site on its own. If the listed animal is injured, then the Lead Biologist or approved biological monitor shall immediately contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife to identify an individual with the appropriate permit or authorization to handle listed species, who shall bring the animal to a pre-identified wildlife rehabilitation or veterinary facility for care.</p> <p>e) Burrowing owls, mammals, and nesting birds may use construction pipes, culverts, or similar structures for refuge or nesting. All towers shall be of the monopole variety and all hollow vertical structures, such as solar mount poles, or fencing poles, shall be capped immediately after installation to prevent bird entrapment. Therefore, all construction pipes,</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until the Lead Biologist has been consulted and the animal has either moved from the structure on its own accord (for listed species) or until the animal has been captured and relocated (for non-listed species) by the Lead Biologist. If the animal is a listed species, then work shall immediately halt in the vicinity, and the animal shall be allowed to move from the structure and the work area of its own accord. The Lead Biologist will direct work stoppages near the animal to allow it to freely move out of the pipe and away from the work area. Listed species shall not be handled or captured by anyone without the appropriate permit or authorization.</p> <p>f) No vehicle or equipment parked on the project site shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own.</p> <p>g) 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.</p> <p>h) A speed limit of 15 miles per hour shall be enforced within the limits of the proposed project.</p> <p>i) A long-term trash abatement program shall be established for construction, operations and maintenance, 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.</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>j) Workers shall be prohibited from bringing pets and firearms to the project area and from feeding wildlife.</p> <p>k) Intentional killing or collection of any plant or wildlife species shall be prohibited.</p> <p>l) To enable kit foxes and other wildlife (e.g., American badger) to pass through the project site after construction, the security fence, and any permanent interior fencing shall be a wildlife friendly design that meets the goals of allowing wildlife to move freely through the project site during operation, leaving 4- to 7-inch openings or portals in the fence or the fence shall be raised 7 inches above the ground leaving a gap between the fence mesh and the ground. In the latter case the bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence.</p> <p>MM 4.4-4: Preconstruction Clearance Surveys. The Lead Biologist or approved biological monitor shall monitor all initial ground-disturbance activities and remain on-call throughout construction in the event a special-status species wanders into the project site.</p> <p>Preconstruction surveys for special-status species shall be conducted within the project boundaries by the Lead Biologist or approved biological monitor within 14 days of the start of any vegetation clearing or grading activities. Methodology for preconstruction surveys shall be appropriate for each potentially occurring species-status species and shall follow U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife preconstruction survey guidelines where appropriate. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days of the portion of the project site being disturbed. The Lead Biologist may use a variety of approaches (including but not limited to monitoring, track plates, and direct observation) and evidence (including burrow characteristics and presence of sign</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>such as scat and tracks) to determine burrow activity. If any evidence of occupation of the project site special-status species is observed, a buffer shall be established by a qualified biologist that results in sufficient avoidance, as described below.</p> <p>If desert tortoise are found on-site during subsequent surveys or biological monitoring activities, construction activities shall cease to avoid the potential for take and consultation with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be initiated to obtain the necessary incidental take permit authorizations or provide evidence such a permit is not required.</p> <p>Preconstruction surveys shall be conducted by a qualified biologist for the presence of American badger or desert kit fox dens within 14 days prior to commencement of construction activities. The surveys shall be conducted in areas of suitable habitat for American badger and desert kit fox, which includes desert scrub habitats. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site disturbed. If potential dens are observed and avoidance is feasible, the following buffer distances shall be established prior to construction activities:</p> <p style="padding-left: 40px;">Desert kit fox or American badger potential den: 50 feet.</p> <p style="padding-left: 40px;">Desert kit fox or American badger active den: 100 feet.</p> <p style="padding-left: 40px;">Desert kit fox or American badger natal den: 500 feet.</p> <p>If avoidance of the potential dens is not possible, the following measures are required to avoid potential adverse effects to the American badger and desert kit fox:</p> <p style="padding-left: 40px;">If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent American badgers or desert kit foxes from re-using them during construction.</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>If the qualified biologist determines that potential dens may be active, an on-site passive relocation program shall be implemented. This program shall consist of excluding American badgers or desert kit foxes from occupied burrows by installation of one-way doors at burrow entrances, monitoring of the burrow for seven days to confirm usage has been discontinued, and excavation and collapse of the burrow to prevent reoccupation. After the qualified biologist determines that American badgers or desert kit foxes have stopped using the dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction.</p> <p>During fencing and grading activities daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report documenting the effectiveness and practicality of the protection measures that are in place and making recommendations for modifying the measures to enhance species protection, as needed. The report shall also provide information on the overall activities conducted related to biological resources, including the Environmental Awareness Training and Education Program, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities. These monitoring reports shall be submitted to the Kern County Planning and Community Development Department and relevant resource agencies, as applicable, on a monthly basis along with copies of all survey reports.</p> <p>MM 4.4-5: Preconstruction Desert Tortoise Surveys. Within 14 days prior to the commencement of any ground-disturbing activities the project operator shall conduct preconstruction surveys for desert tortoise within the project area. The surveys shall be conducted in accordance with the U.S. Fish and Wildlife Service protocol (2010). If no burrows or tortoises are discovered during preconstruction surveys, no further mitigation is</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>necessary. The desert tortoise is a federally and state threatened species and consequently, impacts that would cause “take” of the species would require the issuance of Incidental Take Permits from both the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to comply with the Federal Endangered Species Act and California Endangered Species Act. If burrows or tortoises are identified on the project site during preconstruction surveys, the project operator shall be required to consult with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife regarding take coverage, and adhere to the following minimum conditions:</p> <ul style="list-style-type: none"> a) Develop a plan for desert tortoise translocation and monitoring prior to project construction. The plan shall provide the framework for implementing the following measures: <ul style="list-style-type: none"> i. If, upon consultation with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, it is determined by both resource agencies that a permanent tortoise proof exclusion fence is required, a fence shall be installed around all construction and operation areas prior to the initiation of earth disturbing activities, in coordination with a qualified biologist. The fence shall be designed in such a manner to allow other wildlife to access through the permanent security fence and be constructed of 0.5-inch mesh hardware cloth and extend 18 inches above ground and 12 inches below ground. Where burial of the fence is not possible, the lower 12 inches shall be folded outward against the ground and fastened to the ground so as to prevent desert tortoise entry. The fence shall be supported sufficiently to maintain its integrity, be checked at least monthly during construction and operations, and maintained when necessary by the project operator to ensure its integrity. Provisions shall be made for closing off the fence at the 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>point of vehicle entry. Common raven perching deterrents shall be installed as part of the fence construction.</p> <p>ii. An Authorized Biologist shall conduct a preconstruction survey for desert tortoise within the construction site, as well as before and after installation of desert tortoise exclusionary fencing (if required to be installed) and project security fencing. An Authorized Biologist has the appropriate education and experience to accomplish biological monitoring and mitigation tasks and is approved by the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service. Two surveys without finding any desert tortoises or new desert tortoise sign shall occur prior to declaring the site clear of desert tortoises.</p> <p>iii. All burrows that could provide shelter for a desert tortoise shall be hand-excavated prior to ground-disturbing activities.</p> <p>iv. An Authorized Biologist shall remain on site until all vegetation necessary for the construction of the project is cleared and, at a minimum, conduct site and fence inspections on a monthly basis throughout construction in order to ensure project compliance with mitigation measures.</p> <p>v. An Authorized Biologist shall remain on-call throughout fencing and grading activities in the event a desert tortoise wanders onto the project site.</p> <p>vi. Mitigation for permanent loss of occupied desert tortoise habitat shall be mitigated at a 1:1 ratio to reduce potential effects to less-than-significant levels. Mitigation can be achieved through purchase of credit from an existing mitigation bank, such as the Desert Tortoise Natural Area, private purchase of mitigation lands, or on-site preservation, as approved by the resource agencies.</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>b) A Raven Management Plan shall be developed for the project site. This plan shall include at a minimum:</p> <ul style="list-style-type: none"> i. Identification of all common raven nests within the project area during construction. ii. Weekly inspections during construction under all nests in the project area for evidence of desert tortoise predation (e.g., scutes, shells, etc.). If evidence of desert tortoise predation is noted, a report shall be submitted to the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and the Kern County Planning and Community Development Department within five calendar days; and iii. Provisions for the management of trash that could attract common ravens during the construction, operations and maintenance, and decommissioning phases of the proposed project. <p>MM 4.4-6: Preconstruction Burrowing Owl Surveys. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct preconstruction surveys of the permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows no fewer than 14 days prior to ground-disturbing activities (i.e., vegetation clearance, grading, tilling). The survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation 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. Surveys may be conducted concurrently with desert tortoise preconstruction surveys. As each burrow is investigated, surveying biologists shall also look for signs of American badger and desert kit fox. Copies of the survey results shall be submitted to California</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Department of Fish and Wildlife and the Kern County Planning and Community Development Department.</p> <p>If burrowing owls are detected on-site, no ground-disturbing activities shall be permitted within a buffer of no fewer than 100 meters (330 feet) from an active burrow during the breeding season (i.e., February 1 to August 31), unless otherwise authorized by California Department of Fish and Wildlife. During the non-breeding (winter) season (i.e., September 1 to January 31), ground-disturbing work can proceed as long as the work occurs no closer than 50 meters (165 feet) from the burrow. Depending on the level of disturbance, a smaller buffer may be established in consultation with California Department of Fish and Wildlife.</p> <p>If burrow avoidance is infeasible during the non-breeding season or during the breeding season (February 1 through August 31) where resident owls have not yet begun egg laying or incubation, or where the juveniles are foraging independently and capable of independent survival, a qualified biologist shall implement a passive relocation program in accordance with Appendix E1 (i.e., Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans) of the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation.</p> <p>If passive relocation is required, a qualified biologist shall prepare a Burrowing Owl Exclusion and Mitigation Plan and a Mitigation Land Management Plan in, accordance with the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation, for review by California Department of Fish and Wildlife prior to passive relocation activities. The Mitigation Land Management Plan shall include a requirement for the permanent conservation of offsite Burrowing Owl Passive Relocation Compensatory Mitigation. At a minimum, the following recommendations shall be implemented:</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> i. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions including decompacting soil and revegetating. ii. 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. iii. Permanently protect mitigation land through a conservation easement, deed restriction, or similar mechanism deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a California Department of Fish and Wildlife approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits. Land identified to mitigate for passive relocation of burrowing owl may be combined with other offsite mitigation requirements of the proposed project if the compensatory habitat is deemed suitable to support the species. <p>MM 4.4-7: Nesting Birds and Raptors. If construction is scheduled to commence during the non-nesting season (i.e., September 1 to January 31), no preconstruction surveys or additional measures are required. To avoid impacts to nesting birds in the project area, a qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat within the project site for construction activities that are initiated</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.4-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community, or jurisdictional waters, identified in local or regional plans, policies, or regulations or by CDFW or USFWS.	Potentially significant	<p>during the breeding season (i.e., February 1 to August 31). The raptor survey shall focus on potential nest sites (e.g., cliffs, large trees, windrows) within a 0.5-mile buffer around the project site. Surveys shall be conducted no more than 14 days prior to construction activities. Surveys need not be conducted for the entire project site at one time; they may be phased so that surveys occur shortly before a portion of the project site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer (e.g., 200–300 feet for common raptors; 0.5 mile for Swainson’s hawk; 30–50 feet for passerine species) shall be established around active nests and no construction within the buffer allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). For non-listed species, encroachment into the avoidance buffer may occur at the discretion of a qualified biologist; however, for State-listed species, consultation with CDFW shall occur prior to encroachment into the aforementioned buffers.</p> <p>Implementation of Mitigation Measure MM 4.9-2, as provided in Section 4.9, Hazards and Hazardous Materials, of this EIR</p> <p>MM 4.4-8: Prior to issuance of any grading or building permit, the project proponent/operator shall submit a final Jurisdictional Delineation report. A copy of this report shall also be provided to the Lahontan Regional Water Quality Control Board (RWQCB) and the County. The report shall include information as shown below as a plan if necessary and shall outline compliance to the following:</p> <ol style="list-style-type: none"> 1. Delineation of all jurisdictional features at the project site. Potential jurisdictional features (ephemeral drainages) within the project boundary identified in the jurisdictional delineation report that are not anticipated to be directly 	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>impacted by project related activities shall be avoided. This may be shown in plan form.</p> <ol style="list-style-type: none"> Any material/spoils generated from project activities shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative will be notified. <p>MM 4.4-9: Prior to ground disturbance activities that would impact aquatic features, the project proponent/operator shall be subject to provisions as identified below:</p> <ol style="list-style-type: none"> The project proponent/operator shall file a complete Report of Waste Discharge with the RWQCB to obtain Waste Discharge Requirements and shall also consult with California Department of Fish and Wildlife (CDFW) on the need for a streambed alteration agreement. Copies of reports shall be submitted to the County. Based on consultation with RWQCB and CDFW, if permits are required for the project site, appropriate permits shall be obtained prior to disturbance of jurisdictional resources. Compensatory mitigation for impacts to unvegetated streambeds/washes shall be identified prior to disturbance of the features at a minimum 1:1 ratio, as approved by the 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>RWQCB or CDFW either through on-site or off-site mitigation, or purchasing credits from an approved mitigation bank.</p> <p>4. The project proponent/operator shall comply with the compensatory mitigation required and proof of compliance, along with copies of permits obtained from RWQCB and/or CDFW, which shall be provided to the County.</p> <p>5. A Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared that outlines the compensatory mitigation in coordination with the RWQCB and CDFW.</p> <p>a. If on-site mitigation is proposed, the HMMP shall identify those portions of the site, such as relocated drainage routes, that contain suitable characteristics (e.g., hydrology) for restoration. Determination of mitigation adequacy shall be based on comparison of the restored habitat with similar, undisturbed habitat in the site vicinity (such as upstream or downstream of the site).</p> <p>b. The HMMP shall include remedial measures in the event that performance criteria are not met.</p> <p>c. If mitigation is implemented off site, mitigation lands shall be comprised of similar or higher quality and preferably located in Kern County. Off-site land shall be preserved through a deed restriction or conservation easement and the HMMP shall identify an approach for funding assurance for the long-term management of the conserved land. Alternatively, the applicant may purchase credits from an approved mitigation bank.</p> <p>d. Copies of any coordination, permits, etc., with RWQCB and CDFW shall be provided to the County.</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.4-3: The project would have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	No Impact	No mitigation would be required.	No Impact
Impact 4.4-4: The project would interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Potentially significant	MM 4.4-10: The project site shall be fenced to keep terrestrial wildlife species from entering the project site during construction, but will provide openings post-construction to enable wildlife to move freely through the project site during operation (e.g., create 4- to 7-inch portals or openings in the fence raising the fence 7 inches above the ground and knuckling the bottom of the fence [i.e., wrapping the fencing material back to form a smooth edge] to protect wildlife passing underneath). A desert tortoise exclusion fence is not required unless desert tortoise are found on site during the preconstruction surveys. This fencing shall be constructed of silt fence material, metal flashing, plastic sheeting, or other materials that will prohibit wildlife from climbing the fence or burrowing below the fence. The fencing shall be buried approximately 12 inches below the surface and extend a minimum of 30 inches above grade. Fencing shall be installed prior to issuance of grading or building permits and shall be maintained during all phases of construction and decommissioning. The fencing shall be inspected by a qualified biologist at a regular interval and immediately after all major rainfall events through the duration of construction and decommissioning activities. Any needed repairs to the fence shall be performed on the day of their discovery. Outside temporarily fenced exclusion areas, the project operator shall limit the areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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.	Potentially significant	Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-10 is required.	Less than significant
Impact 4.4-6: The project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan.	Potentially significant	Implementation of Mitigation Measures MM 4.4-1, MM 4.4-2, MM 4.4-4 and MM 4.4-5 is required.	Less than significant
Impact 4.4: Cumulative Impacts	Significant and unavoidable	Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-10 would be required.	Significant and unavoidable
4.5 Cultural Resources			
Impact 4.5-1: The project would cause a substantial adverse change in the significance of a historical resource, as defined in <i>CEQA Guidelines</i> Section 15064.5.	Potentially significant	<p>MM 4.5-1: The project proponent/operator shall retain a Lead Archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior, 2011), to carry out all mitigation measures related to archaeological and unique historical resources. The contact information for this Lead Archaeologist shall be provided to the Kern County Planning and Natural Resources Department prior to the commencement of any construction activities on-site. Further, the Lead Archaeologist shall be responsible for ensuring the following employee training provisions are implemented during implementation of the project:</p> <p>a. Prior to commencement of any ground disturbing activities, the Lead Archaeologist in consultation with the Native American monitor(s) shall conduct a Cultural Resources Sensitivity Training for all personnel working on the proposed project. A Cultural Resources Sensitivity Training Guide approved by the Lead Archaeologist shall be provided to all personnel. A copy of the Cultural Resources Sensitivity Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training</p>	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>guide may be presented in video form. A copy of the proposed training materials shall be provided to the Planning and Natural Resources Department prior to the issuance of any grading or building permit.</p> <p>b. The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the Lead Archaeologist and/or Native American monitor(s) for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources.</p> <p>c. A copy of the Cultural Resources Sensitivity Training Guide/Materials shall be kept on-site and available for all personnel to review and be familiar with as necessary. It is the responsibility of the Lead Archaeologist to ensure all employees receive appropriate training before the work on-site.</p> <p>MM 4.5-2: Prior to this issuance of any grading or building permit, the project operator shall submit to the Kern County Planning and Natural Resources Department a Cultural Resources Treatment Plan. The plan shall:</p> <ol style="list-style-type: none"> 1. Provide an overview of best management practices to be utilized during construction activities to ensure protection of cultural resources. 2. Outline the process for evaluation of any unanticipated cultural discoveries during project construction activities. 3. Include provisions showing how sites P-15-019560 through p-15-019566 will be avoided during construction and operational activities. <p>MM 4.5-3: During implementation of the project, the services of Native American Tribal Monitors, working under the supervision</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>of the Lead Archaeologist as identified through consultation with appropriate Native American tribes, shall be retained by the project proponent/operator to monitor, on a full-time basis, ground-disturbing activities associated with project-related construction activities, as follows:</p> <ol style="list-style-type: none"> 1. All initial excavation and initial ground-disturbing activities within the project site, shall be monitored by archaeological and Native American monitors. 2. The Lead Archaeologist, archaeological monitors, and Native American monitors shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. 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 Lead Archaeologist, archaeological monitor, and Native American monitor. 3. The archaeological monitor(s) shall keep daily logs and the Lead Archaeologist shall submit monthly written updates to the Kern County Planning and Natural Resources Department. After monitoring has been completed, the Lead Archaeologist shall prepare a monitoring report detailing the results of monitoring, which shall be submitted to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield. <p>MM 4.5-4: During implementation of the project, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of discovery. Signs</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.5-2: The project would cause a substantial adverse change in the significance of an archaeological resource pursuant to <i>CEQA Guidelines</i> Section 15064.5.	Potentially significant	<p>shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as the Native American monitor. The Lead Archaeologist in consultation with the Native American monitor, 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.</p> <p>Consistent with CEQA Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the Lead 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. Diagnostic archaeological materials with research potential recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with a designated Native American monitor, shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.</p>	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.5-3: The project would not disturb any human remains, including those interred outside of formal cemeteries.	Potentially significant	MM 4.5-5: If human remains are uncovered during project construction, the project contractor shall immediately halt work within 100 ft. of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the California Environmental Quality Act Guidelines. If the County Coroner determines that the remains are Native American, the coroner shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per Public Resources Code 5097.98. Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (7100 et. seq.) directing identification of the next-of-kin will apply.	Less than significant
Impact 4.5: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-5 is required.	Less than significant
4.6 Energy			
Impact 4.6-1: The project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Less than significant	Implementation of Mitigation Measure MM 4.3-1 is required, as provided in Section 4.3, Air Quality, of this EIR.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.6-2: The project would not 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
Impact 4.6: Cumulative Impacts	Less than significant	Implementation of Mitigation Measure MM 4.3-1 is required, as provided in Section 4.3, Air Quality, of this EIR.	Less than significant
4.7 Geology and Soils			
Impact 4.7-1: The project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, 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	No mitigation measures are required.	Less than significant
Impact 4.7-2: The project would not 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
Impact 4.7-3: The project would not 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.	Less than Significant	No mitigation measures are required.	Less than significant
Impact 4.7-4: The project would not be located on expansive soils creating substantial direct or indirect risks to life or property.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.7-5: The project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.7-6: The project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially significant	<p>MM 4.7-1: The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (SVP, 2010), to carry out all mitigation measures related to paleontological resources.</p> <ol style="list-style-type: none"> 1. Prior to the start of any ground disturbing activities, the qualified paleontologist shall conduct a Paleontological Resources Awareness Training program for all construction personnel working on the project. A Paleontological Resources Awareness Training Guide approved by the qualified paleontologist shall be provided to all personnel. A copy of the Paleontological Resources Awareness Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form. 2. 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 onsite and available for all personnel to review and be familiar with as necessary. <p>MM 4.7-2: A qualified paleontologist or designated monitor shall monitor all ground-disturbing activity (with the exception of vibratory or hydraulic installation of tracking or mounting structures and foundations or supports) that occurs at a depth of 12 feet or deeper below ground surface in areas mapped as</p>	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>younger Quaternary alluvium and for all ground disturbance within the mapped older Quaternary Alluvium within the western portion of Gen-Tie Option 3, should that alternative be selected.</p> <ol style="list-style-type: none"> 1. 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"> a. 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. 2. 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. 3. Following the completion of construction, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources onsite. 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>MM 4.7-3: If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository.	
Impact 4.7: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3 is required.	Less than significant
4.8 Greenhouse Gases			
Impact 4.8-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.8-2: The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.8: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.9 Hazards and Hazardous Materials			
Impact 4.9-1: The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Potentially significant	<p>MM 4.9-1: Prior to the issuance of grading or building permits, the project proponent shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval.</p> <ol style="list-style-type: none"> 1. The hazardous materials business plan shall: <ol style="list-style-type: none"> a. Delineate hazardous material and hazardous waste storage areas. b. Describe proper handling, storage, transport, and disposal techniques. c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill. d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction. e. Establish public and agency notification procedures for spills and other emergencies, including fires. f. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site. 2. The project proponent 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. 3. A copy of the approved hazardous materials business plan shall be submitted to the Kern County Planning and Natural Resources Department. <p>Implement Mitigation Measure MM 4.17-1 as provided in Section 4.17, Utilities and Service Systems, of this EIR is required.</p>	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.9-2: The project would not 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>MM 4.9-2: The project proponent shall continuously comply with the following:</p> <ul style="list-style-type: none"> a. The construction contractor or project personnel shall use herbicides that are approved for use in California, and are appropriate for application adjacent to natural vegetation areas (i.e., non-agricultural use). Personnel applying herbicides shall have all appropriate state and local herbicide applicator licenses and comply with all state and local regulations regarding herbicide use. b. Herbicides shall be mixed and applied in conformance with the manufacturer's directions. c. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife. d. Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water. e. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated. <p>Implementation of Mitigation Measures MM 4.9-1 and MM 4.17-1 is required.</p>	Less than significant
Impact 4.9-3: The project would emit hazardous emissions or involves handling hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.9-4: The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	Less than significant	Implementation of Mitigation Measure MM 4.14-1 as provided in Section 4.14, Public Services, of this EIR is required.	Less than significant
Impact 4.9: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.14-1, and MM 4.17-1 is required.	Less than significant
4.10 Hydrology and Water Quality			
Impact 4.10-1: The project would not violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality.	Potentially significant	Implementation of Mitigation Measure MM 4.9-1 as provided in Section 4.9, Hazards and Hazardous Materials, of this EIR is required.	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.	Less than significant	No mitigation measures are required.	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.	Potentially significant	MM 4.10-1: Prior to the issuance of a grading permit, the project proponent shall complete a final drainage plan designed to evaluate and minimize potential increases in runoff from the project site. The study and plan shall include the following: <ol style="list-style-type: none"> 1. A numerical stormwater model for the project site that evaluates existing and proposed (with project) drainage conditions during storm events ranging up to the 100-year event. 2. An assessment 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. 3. 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 	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>as to minimize erosion, sedimentation, and flooding on-site or off-site.</p> <p>4. A specification that 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 panel sites located within a 100-year floodplain shall be graded to direct potential flood waters without increasing the water surface elevations more than 1 foot or as required by Kern County's Floodplain Ordinance.</p> <p>The drainage plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards and approved by the Kern County Public Works Department prior to the issuance of grading permits.</p>	
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.	Potentially significant	Implementation of Mitigation Measure MM 4.10-1 is required.	Less than significant
Impact 4.10-5: The project 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	Implementation of Mitigation Measure MM 4.10-1 is required.	Less than significant
Impact 4.10-6: The project would contribute to inundation by a flood hazard, tsunami, or seiche zones, that would result in risk of release of pollutants.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.10-7: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.10: Cumulative Impacts	Potentially Significant	Implementation of Mitigation Measure MM 4.10-1 is required.	Less than significant
4.11 Land Use			
Impact 4.11-1: The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.11: Cumulative Impacts	Potentially significant	<p>MM 4.11-1: Prior to issuance of any building permit, the project operator shall provide for review and approval by the Kern County Engineering, Surveying, and Permit Services Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the deconstruction of the site as identified on the approved Decommission Plan in the event that at any point in time the project operator determines it is not in the company's best interest to operate the facility.</p> <p>The financial assurance required prior to issuance of any building permit shall be established using one of the following:</p> <p>a) An irrevocable letter of credit;</p>	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>b) A surety bond;</p> <p>c) A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommission plan; or</p> <p>d) Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.</p> <p>The financial institution or Surety Company shall give the County at least 120 days notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Engineering, Surveying, and Permit Services Department or County contracted consulting firm(s) at a cost to be borne by the project operator to substantiate those adequate funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommission Plan. Should the project operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance.</p> <p>Once deconstruction has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommission of the site by the County shall be returned to the project operator.</p> <p>Should any portion of the solar field not be in operational condition for a consecutive period of twelve 12 months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Natural</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.12 Noise			
Impact 4.12-1: The project would result in 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.	Potentially significant	<p>MM 4.11-2: 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>MM 4.12-1: The following measures are to be implemented to further reduce short-term noise levels associated with project construction and decommissioning:</p> <ul style="list-style-type: none"> a) Construction and decommissioning activities at the project site shall comply with the hourly restrictions for noise-generating construction activities, as specified in the County's Code of Ordinances, Chapter 8.36. Accordingly, construction activities shall be prohibited between the hours of 9:00 p.m. to 6:00 a.m. on weekdays, and between 9:00 p.m. to 8:00 a.m. on weekends. These hourly limitations shall not apply to activities where hourly limitations would result in increased safety risk to workers or the public, such as commissioning and maintenance activities that must occur after dark to ensure photovoltaic arrays are not energized, unanticipated emergencies requiring immediate attention, or security patrols. b) Equipment staging and laydown areas shall be located at the furthest practical distance from nearby residential land uses. 	Significant and unavoidable

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>To the extent possible, staging and laydown areas should be located at least 500 feet of existing residential dwellings.</p> <p>c) Construction equipment shall be fitted with noise-reduction features such as mufflers and engine shrouds that are no less effective than those originally installed by the manufacturer.</p> <p>d) Haul trucks shall not be allowed to idle for periods greater than five minutes, except as needed to perform a specified function (e.g., concrete mixing).</p> <p>e) Onsite vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency).</p> <p>f) Back-up beepers for all construction equipment and vehicles shall be broadband sound alarms or adjusted to the lowest noise levels possible, provided that the Occupational Safety and Health Administration and California Division of Occupational Safety and Health's safety requirements are not violated. On vehicles where back-up beepers are not available, alternative safety measures such as escorts and spotters shall be employed.</p> <p>MM 4.12-2: Prior to the issuance of grading permits, a "noise disturbance coordinator" shall be established. The project operator shall submit evidence of methods of implementation and shall continuously comply with the following during construction: The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures such that the complaint is resolved.</p> <p>MM 4.12-3: Prior to the issuance of grading permits, the project operator shall submit evidence of the following: Construction contracts shall specify that notices shall be sent out to all residences within 1,000 feet of the construction areas at least 15 days prior to commencement of construction. The notices shall</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>include the construction's schedule and a telephone number where complaints can be registered with the noise disturbance coordinator. A sign legible at a distance of 50 feet shall also be posted at the construction site throughout construction, which includes the same details as the notices.</p> <p>MM 4.12-4: The project shall be designed to ensure that operational noise levels at nearby sensitive receptors, depending on their location within or outside of the WSSP area, would not exceed the applicable WSSP or County noise standards. Techniques that can be incorporated into the BESS design to achieve compliance with the applicable noise standards may include, but are not limited to, the following:</p> <p>Place HVAC units on the far side of the BESS containers relative to the nearest off-site sensitive receptors to allow the containers to act as a barrier to provide noise attenuation.</p> <p>Erect permanent noise barriers of sufficient height to attenuate noise levels from the BESS containers.</p> <p>Provide a sufficient buffer distance between the BESS containers and the nearest off-site receptor.</p> <p>The adequacy of the selected noise control technique(s) shall be demonstrated in an acoustical study submitted to and approved by the County prior to the issuance of building permits.</p>	
Impact 4.12-2: The project would not generate excessive ground-borne vibration or ground-borne noise levels.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.12-3: The project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	Potentially significant	Implementation of Mitigation Measure MM 4.12-4 would be required.	Less than significant
Impact 4.12: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.12-1 through MM 4.12-4 would be required.	Significant and unavoidable

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.13 Population and Housing			
Impact 4.13-1: The project would induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.13-2: The project would displace substantial numbers of existing people or housing, necessitating that construction of replacement housing elsewhere.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.13: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
4.14 Public Services			
Impact 4.14-1: The project could result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services or police protection and law enforcement services.	Potentially significant	<p>MM 4.14-1: Prior to the issuance of grading or building permits, the project proponent/operator shall develop and implement a Fire Safety Plan for use during construction, operation and decommissioning.</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"> 1. All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order. 2. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory-installed (type) muffler in good condition. 	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ol style="list-style-type: none"> 3. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees. 4. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials. 5. 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. 6. The project proponent/operator shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel. <p>MM 4.14-2: The project proponent/operator shall implement the following mitigation steps at the project site:</p> <ol style="list-style-type: none"> 1. For facility operation, the project proponent/operator shall pay for impacts on countywide public protection, sheriff's patrol and investigative services, and fire services at a rate of \$29.59 per 1,000 square feet of panel-covered ground for the facility operation and related onsite structures for the entire covered area of the project. The total amount shall be divided by the 20 and paid on a yearly basis. Any operations that continues past 20 years will pay the same yearly fee. If completed in phases, the annual amount shall be based on the square footage of ground covered by April 30 of each year. The amount shall be paid to the Kern County Auditor/Controller by April 30 of each calendar year for each and every year of operation. Copies of payments made shall be submitted to the Kern County Planning and Natural Resources Department. 2. Written verification of ownership of the project shall be submitted to the Kern County Planning and Natural 	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>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 \$1,000 per megawatt per year, then that entity shall pay the taxes plus the amount necessary to equal the equivalent of \$1,000 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>3. 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>4. 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 that provide skilled workers and shall require the contractor to advertise locally for available</p>	

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		jobs, notifying the training programs of job availability, all in conjunction with normal hiring practices of the contractor.	
Impact 4.14: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.14-1 and MM 4.14-2 is required.	Less than significant
4.15 Transportation			
Impact 4.15-1: The project would conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as follows: Kern County General Plan LOS “D.”	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.15-2: The project would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards developed by the county congestion management agency for designated roads or highways.	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.15-3: The project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Potentially significant	<p>MM 4.15-1: Prior to the issuance of construction or building permits, the project proponent/operator shall:</p> <p>A. Prepare and submit a Construction Traffic Control Plan to Kern County Public Works Department- Development Review and the California Department of Transportation offices for District 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:</p> <ul style="list-style-type: none"> i. Timing of deliveries of heavy equipment and building materials; ii. Directing construction traffic with a flag person; iii. 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; iv. Ensuring access for emergency vehicles to the project sites; v. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections; vi. Maintaining access to adjacent property; and, vii. 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. <p>B. Obtain all necessary encroachment permits for the work within the road right-of-way or use of oversized/overweight</p>	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>vehicles that will utilize county maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Natural Resources Department, the Kern County Public Works Department-Development Review, and the California Department of Transportation.</p> <p>C. Enter into a secured agreement with Kern County to ensure that any County roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and/or Kern County.</p> <p>D. Submit documentation that identifies the roads to be used during construction. The project proponent/operator shall be responsible for repairing any damage to non- county maintained roads that may result from construction activities. The project proponent/operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Public Work Department-Development Review and the Kern County Planning and Natural Resources Department.</p> <p>E. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in DVD format. The County, in consultation with the project proponent/operator's engineer, shall determine the extent of remediation required, if any.</p>	
Impact 4.15-4: The proposed project would result in inadequate emergency access.	Potentially significant	Implementation of Mitigation Measure MM 4.15-1 is required	Less than significant
Impact 4.15: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measure MM 4.15-1 is required	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.16 Tribal Cultural Resources			
Impact 4.16-1a: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).	Potentially significant	Implementation of Mitigation Measure MM 4.5-2 as provided in Section 4.5, Cultural Resources, of this EIR would be required.	Less than significant
Impact 4.16-1b: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Potentially significant	Implementation of Mitigation Measure MM 4.5-2 as provided in Section 4.5, Cultural Resources, of this EIR would be required.	Less than significant
Impact 4.16: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measure MM 4.5-2 would be required.	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.17 Utilities and Service Systems			
Impact 4.17-1: The project would require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.	Potentially significant	Implementation of Mitigation Measure MM 4.10-1 as provided in Section 4.10, Hydrology and Water Quality, of this EIR would be required.	Less than significant
Impact 4.17-2: The project would result in a determination by the waste water treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.17-3: The project would not comply with Federal, State, and Local management and reduction statutes and regulations related to solid waste.	Potentially significant	MM 4.17-1: During construction and operation, debris and waste generated shall be recycled to the extent feasible. <ol style="list-style-type: none"> 1. An onsite Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Maintenance, Trash Abatement and Pest Management Program. 2. 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. 3. The onsite Recycling Coordinator shall also be responsible for ensuring wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal. 4. Contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits. 5. The project proponent/operator shall provide a storage area for recyclable materials within the fenced project area that is 	Less than significant

TABLE 1-8: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		clearly identified for recycling. This area shall be maintained on the site during construction, operations and decommissioning. A site plan showing the recycling storage area shall be submitted prior to the issuance of any grading or building permit for the site.	
Impact 4.17: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.10-1 and MM 4.17-1 would be required.	Less than significant
4.18 Wildfires			
Impact 4.18-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.	Less than significant	No mitigation measures are required.	No impact
Impact 4.18-2: The project would, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.18-3: The project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	Potentially Significant	Implement Mitigation Measure 4.14-1 as provided in Section 4.14, Public Services, of this EIR would be required.	Less than significant
Impact 4.18-4: The project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability, or drainage changes.	Potentially Significant	Implement Mitigation Measure 4.10-1 as provided in Section 4.10, Hydrology and Water Quality, of this EIR is required.	Less than significant
Impact 4.18: Cumulative Impacts	Potentially Significant	Implement Mitigation Measures MM 4.10-1 and MM 4.14-1 would be required.	Significant and unavoidable

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2.1 Intent of the California Environmental Quality Act

The Kern County Planning and Natural Resources Department, as lead agency, has determined that an Environmental Impact Report (EIR) must be prepared for the proposed BigBeau Solar Project (project). The project is located on approximately 2,285-acres and would generate a combined 128 megawatts (MW) (alternating current or “AC”) of renewable electrical energy and up to 60 MW of a Battery Energy Storage System (BESS) in unincorporated Kern County.

The project site encompasses a study area that includes both privately owned and publicly owned land. While the majority of the site (approximately 2,125 acres) have either been purchased or leased by the project proponent, one parcel (approximately 160 acres) is owned by the California State Lands Commission (Commission). As Lead Agency, the County of Kern will be considering the privately owned parcels during consideration of this project. The Commission parcel is not subject to the local permitting authority of Kern County and will need to be separately considered by the Commission.

The proposed project includes several options for generation tie (gen-tie) routes, although only one route would be constructed. Gen-tie Option 1 would exit the project boundary heading northwest approximately 2 miles where it would connect into the existing substation at the Valentine Solar Project. Gen-tie Option 2 would exit the northern boundary of the project heading northeast approximately 2 miles where it would connect into the existing substation at the Catalina Solar project. Gen-tie Option 3 would exit the western boundary of the project heading west 0.3 miles to Southern California Edison’s (SCE’s) Tehachapi Renewable Transmission Project (TRTP) and then southwest approximately 2.5 miles adjacent to the TRTP, then west 3.5 miles where it would connect into the existing Rose Meadow Substation. Gen-tie Option 4 would be an extension of Gen-tie Option 1, and instead of connecting to the Valentine substation, it would continue north of the Valentine substation, tapping into the existing 220 kV Antelope Valley Transmission Line.

This EIR has been prepared pursuant to the following:

The California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.)

CEQA *Guidelines* (California Code of Regulations, Title 14, Chapter 3, Section 15000 et seq.)

The Kern County CEQA Implementation Document

The overall purposes of the CEQA process are to:

Ensure that the environment and public health and safety are protected in the face of discretionary projects initiated by public agencies or private concerns.

Provide for full disclosure of the project’s environmental effects to the public, the agency decision-makers who will approve or deny the project, and responsible and trustee agencies charged with managing resources (e.g., wildlife, air quality) that may be affected by the project.

Provide a forum for public participation in the decision-making process with respect to environmental effects.

2.2 Purpose of this Environmental Impact Report

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

The significant potential impacts of the project on the environment and indicate the manner in which those significant impacts can be avoided or mitigated;

Any unavoidable adverse impacts that cannot be mitigated; and

Reasonable and feasible alternatives to the project that would eliminate any significant adverse environmental impacts or reduce the impacts to a less-than-significant level.

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

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

2.2.1 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 regarding the project:

Determine whether the EIR adequately describes the environmental impacts of the project;

Preferred choice among alternatives;

Determine whether the recommended mitigation measures should be adopted or modified; and

Determine whether additional mitigation measures need to be applied to the project.

2.3 Terminology

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

Project means the whole of an action that has the potential for resulting in a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

Environment refers to the physical conditions that exist in the area and that would be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved is where significant direct or indirect impacts

would occur as a result of the project. The environment includes both natural and man-made (artificial) conditions.

Impacts analyzed under CEQA must be related to a physical change. Impacts are:

- Direct or primary impacts that would be caused by the project and would occur at the same time and place; or
- Indirect or secondary impacts that would be caused by the project and would be later in time or farther removed in distance, but would still be reasonably foreseeable. Indirect or secondary impacts may include growth-inducing impacts and other effects related to induced changes in the pattern of land use; population density or growth rate; and related effects on air and water and other natural systems, including ecosystems.

Significant impact on the environment means a substantial, or potentially substantial, adverse change in any of the physical conditions in the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. An economic or social change by itself is not considered a significant impact on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

Mitigation consists of measures that avoid or substantially reduce the project's significant environmental impacts by:

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

Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. The following statements also apply when considering cumulative impacts:

- The individual impacts may be changes resulting from a single project or separate projects.
- The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor, but collectively significant projects taking place over time.

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

Less than significant. An impact that is adverse but that does not exceed the defined thresholds of significance. Less than significant impacts do not require mitigation.

Significant. An impact that exceeds the defined thresholds of significance and would or could cause a substantial adverse change in the environment. Mitigation measures are recommended to eliminate the impact or reduce it to a less than significant level.

Significant and unavoidable. An impact that exceeds the defined thresholds of significance and cannot be eliminated or reduced to a less-than-significant level through the implementation of mitigation measures.

2.4 Decision-Making Process

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

Initial Study/Notice of Preparation (IS/NOP). Kern County prepared and circulated a IS/NOP for 30 days to responsible, trustee, and local agencies for review and comment beginning on July, 30, 2019, and ending on August, 30, 2019.

Draft EIR Preparation/Notice of Completion (NOC). A Draft EIR is prepared, incorporating public and agency responses to the IS/NOP and the scoping process. The Draft EIR is circulated for review and comment to appropriate agencies and additional individuals and interest groups who have requested to be notified of EIR projects. Per Section 15105 of the *CEQA Guidelines*, Kern County will provide for a 45-day public review period on the Draft EIR. Kern County will subsequently respond to each comment on the Draft EIR received in writing through a Response to Comments chapter in the Final EIR. The Response to Comments will be provided to each agency or person who provided written comments on the EIR a minimum of 10 business days before the scheduled Planning Commission hearing on the Final EIR and project.

Preparation and Certification of Final EIR. The Kern County Planning Commission will consider the Final EIR and the project, acting in an advisory capacity to the Kern County Board of Supervisors. Upon receipt of the Planning Commission's recommendation, the Board of Supervisors will also consider the Final EIR, all public comments, and the project and take final action on the project. At least one public hearing will be held by both the Planning Commission and Board of Supervisors to consider the Final EIR, take public testimony, and then approve, conditionally approve, or deny the project.

2.4.1 Initial Study/Notice of Preparation

Pursuant to Section 15082 of the *CEQA Guidelines*, as amended, the Kern County Planning and Natural Resources Department circulated an IS/NOP to the State Clearinghouse, public agencies, special districts, and members of the public for a public review period beginning July 30, 2019 and ending on August 30, 2019. The IS/NOP 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 IS/NOP 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 IS/NOP and all comment letters are provided in Appendix A of this EIR.

2.4.2 Scoping Meeting

Pursuant to Section 15082 (c)(1) of the *CEQA Guidelines*, for projects of statewide, regional, or area-wide significance, the lead agency is required to conduct at least one scoping meeting. The scoping meeting is

for jurisdictional agencies and interested persons or groups to provide comments regarding, but not limited to, the range of actions, alternatives, mitigation measures, and environmental effects to be analyzed. Kern County hosted a scoping meeting on August 16, 2019, at the Kern County Planning and Natural Resources Department, located at 2700 “M” Street, Suite 100, Bakersfield, California.

Initial Study/Notice of Preparation and Scoping Meeting Results

During the August 16, 2019 scoping meeting, property owners in the project area expressed concern regarding the different components of the project including microwave towers, property value, flooding, dust concerns, valley fever, wildlife, and noise. Furthermore, specific environmental concerns raised in written comments received during the IS/NOP public review period are discussed below. The IS/NOP and all comments received are included in Appendix A, along with the Summary of Proceedings from the Scoping Meeting.

NOP Written Comments

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

TABLE 2-1: SUMMARY OF IS/NOP COMMENTS

Commenter/Date	Summary of Comment
State Agencies	
State Clearinghouse July 30, 2019	The commenter acknowledges the receipt of the NOP.
Native American Heritage Commission (NAHC) August 14, 2019	The commenter states that the proposed project should comply with Senate Bill (SB) 18 and Assembly Bill (AB) 52, contact CA Native American Tribes and their representatives that are within the geographic area of the project and conduct consultations in accordance with SB 18 and AB 52, evaluate if the project will have an adverse impact on historical resources within the project area, contact appropriate regional archaeological information center for a record search, prepare an archaeological inventory survey (if required), contact the Native American Heritage Commission, and include mitigation measures for inadvertent discoveries of archaeological resources.
California State Lands Commission (Commission); August 30, 2019	<p>As a responsible agency, the commenter requests the following potential impacts be analyzed in the Draft EIR:</p> <p>Description of parcel under Commission: identify the California State Lands as School lands and lands having significant resources.</p> <p>Project Components on the Commission Parcel: identify the proposed facilities and temporary construction facilities and distinguish which are applicable to Commission owned land.</p> <p>Project Description: describe the details of all allowable activities, equipment or methods that may be used, maximum area of impact, and details of timing and length of activities. The commenter also includes a specific list of questions that should be discussed for each of the structures being proposed.</p> <p>Sensitive Species: request database searches to determine the EIR is complete and thorough regarding impacts to sensitive species resulting from project implementation.</p>

TABLE 2-1: SUMMARY OF IS/NOP COMMENTS

Commenter/Date	Summary of Comment
	<p>Greenhouse Gas: GHG emissions analysis should be conducted consistent with AB32.</p> <p>Deferred Mitigation: present mitigations as specific, feasible, enforceable obligations, or as formulas containing performance standards which would mitigate the significant effect and which may be accomplished in more than one specified way.</p> <p>Tribal Consultations: document how the County complied with the provision for consultation with the California Native American Tribes pursuant to the requirements added to CEQA by Assembly Bill (AB) 52.</p> <p>Title to Resources: state that the title to archaeological sites and historic or cultural resources on school lands may be vested in the State and under the jurisdiction of the Commission and contact the Commission Tribal Liaison should any cultural resources on state land be discovered during construction. Moreover, the following statement should be included in the Mitigation and monitoring Plan: The final disposition of archeology, historical, and paleontological resources recovered on State lands under the jurisdiction of the Commission must be approved by the Commission.</p> <p>Greenhouse Gases: identify a significant threshold for GHG emissions, calculate the level of GHGs that will be emitted as a result of construction, operation, and decommissioning, determine the significance of impacts, identify mitigation measures, and carefully document the basis for its analysis and conclusions.</p>
California Department of Fish and Wildlife (CDFW); September 4, 2019	<p>The commenter recommends the County include the following in the biological resources analysis of the EIR:</p> <p>Discussions, evaluations, and appropriate mitigation for potentially significant impacts to biological resources.</p> <p>Require the project proponent/operator to conduct species-specific surveys according to acceptable protocols.</p> <p>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.</p> <p>Comments related to CDFW jurisdiction include:</p> <p>Trustee Agency Authority: CDFW has responsibility under CEQA for providing biological expertise to review and comment on projects that could impact plant and wildlife resources.</p> <p>Incidental Take Permit: CDFW has regulatory authority over projects that could result in the take of any species listed by the State as threatened or endangered, pursuant to Fish and Game Code Section 2081. If the project could result in the take of any species listed as threatened or endangered under CEQA, CDFW may need to issue an Incidental Take Permit (ITP) for the project.</p> <p>Lake and Streambed Alteration Agreement: CDFW has regulatory authority with regard to activities occurring in streams and/or lakes that could adversely affect any fish or wildlife resource, pursuant to Fish and Game Code Section 1600 et seq. The commenter recommends that any stream disturbance be described in the Draft EIR, and mitigation for the disturbance be developed as part of the environmental review process.</p> <p>Bird Protection: CDFW has jurisdiction over actions which may result in the disturbance or destruction of active nest sites or the unauthorized take of birds.</p>

TABLE 2-1: SUMMARY OF IS/NOP COMMENTS

Commenter/Date	Summary of Comment
	<p>Fully Protected Species: CDFW has jurisdiction over the species of birds, mammals, amphibians, reptiles, and fish pursuant to Fish and Game Codes 3503, 3503.5 and 3513.</p> <p>Water Quality Protection: Pursuant to Fish and Game Code Section 5650, it is unlawful to deposit in, or permit to pass into, Waters of the State and substance deleterious to fish, plant life or bird life.</p> <p>Comments related to specific species related to the proposed project include:</p> <p>Swainson's Hawk: the commenter recommends utilization of the Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California and that survey results be used during analysis of project-related and cumulative impacts to nesting Swainson's Hawk and foraging habitat for the Draft EIR. The commenter also recommends 2,450 acres of land suitable for Swainson's Hawk foraging habitat be placed under a conservation easement with an endowment for the management of said land prior to starting ground-disturbing activities.</p> <p>Desert Tortoise: the commenter recommends that Presence-or-Absence surveys following the United States Fish and Wildlife Service (USFWS) protocol be conducted during the appropriate survey periods to determine the potential for desert tortoise use of the project site and surrounding area. Survey results are recommended to be submitted to both CDFW and the USFWS. Depending on survey results, the commenter further recommends consulting with the CDFW and USFWS for the development of avoidance, minimization and mitigation measures.</p> <p>Mohave Ground Squirrel: the commenter states that the project site is within the range of Mohave ground squirrel and recommends that protocol-level surveys be conducted in areas of potential and marginal habitat, covering the entire project site and that survey results be submitted to CDFW.</p> <p>Burrowing Owl: the commenter states that burrowing owls have nested on the project site and recommends surveys be conducting following the CDFW Staff Report on Burrowing Owl Mitigation. The commenter also recommends a requirement for an offsite mitigation habitat funded through a perpetual endowment by the project proponent/operator.</p> <p>General Bird Protection Measures: The commenter recommends that project construction and decommissioning occur during the non-breeding bird season. If activities must occur during the breeding season, the commenter recommends that project construction and decommission occur in accordance with the Migratory Bird Treaty Act or relevant Fish and Game Codes. Surveys for active bird nests are also recommended to be conducted by a qualified biologist and that no-disturbance buffers be established around active nests.</p> <p>American Badger: The commenter recommends the project proponent/operator surveys for this species be conducted prior to construction and that burrows that have the potential to be used by this species be avoided by at least 50 feet. Grassland habitat throughout the project site is recommended to provide appropriate foraging habitat.</p> <p>Desert Kit Fox: The commenter recommends utilization of USFWS's Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox for detecting dens of desert fox subspecies. The commenter further recommends all perimeter fencing be raised five to seven inches above ground level and knuckled under to allow desert kit fox movement into and out of the project site.</p>

TABLE 2-1: SUMMARY OF IS/NOP COMMENTS

Commenter/Date	Summary of Comment
	<p>Listed Plant Species: the commenter recommends conducting repeated floristic surveys by a qualified botanist during the appropriate floristic period(s) in order to adequately assess potential project-related impacts to listed plant species.</p> <p>Lake and Streambed Alteration: the commenter recommends delineating all state and federal waters. If water features are found, an analysis of potential project-related impacts should be provided, along with appropriate avoidance, minimization and mitigation measures in the Draft EIR.</p>
Local	
<p>Lahontan Regional Water Quality Control Board</p> <p>August 19, 2019</p>	<p>The commenter suggests the applicant consider LID alternatives including maintaining natural drainage paths, maintaining vegetated areas, etc., to develop a SWPPP that is applicable to solar fields, access roads, and gen-tie line, implement temporary BMPs until vegetation has been restored to pre-project conditions or permanent BMPs are in place, and identify post-construction storm water management BMPs including maintaining existing vegetation. Maintaining and mowing existing vegetation is recommended rather than clearing and grubbing. They also recommend the applicant delineate and evaluate impacts of the project on water of the State, list beneficial uses of surface water and groundwater in the project area, identify water quality objectives and standards for waters of the State, implement a Restoration and Revegetation Plan to summarize how water resource and upland areas will be restored to match pre-project condition, site equipment staging areas, soil stockpiles and hazardous materials in upland areas, and include a mitigation measure for a Spill Prevention and Response Plan.</p> <p>The commenter states the project has the potential to impact waters of the State, and required permits may include the following:</p> <ul style="list-style-type: none"> CWA Section 401 water quality certification for impact to federal waters; CWA 402(p) storm water permit, which may include a NPDES General Construction Storm Water permit; NPDES General Industrial Storm Water Permit, WQO-97-03-DWQ; and NPDES General Permit, Limited Threat Discharges to Surface Waters, Board Order R6T-2014-0049.
<p>Kern County Fire Department</p> <p>August 28, 2019</p>	<p>The commenter states that the Kern County Fire Department will review the project when it becomes a building permit and states that the proposed battery storage system will also require review under a separate permit.</p>
<p>Kern County Superintendent of Schools</p> <p>August 13, 2019</p>	<p>The commenter states that the proposed project would not result in a significant impact to schools or district facilities and no further mitigation measures regarding school facilities are necessary.</p>
<p>Kern County Public Health Services – Environmental Health</p> <p>August 9, 2019</p>	<p>An account on the California Environmental Report System should be made for the project.</p>

TABLE 2-1: SUMMARY OF IS/NOP COMMENTS

Commenter/Date	Summary of Comment
Interested Parties	
Kern Audubon Society August 5, 2019	The commenter recommends surveying the area for roosting birds in the Joshua trees, which are used by Swainson's hawks and other birds of prey for foraging platforms and for nesting. Since birds of prey have a 5-mile radius, trees within the 5-mile radius must be identified and evaluated. They also recommend to summarize data from another solar project of similar size regarding its operational impacts to biological resource, include aerial photographs and photos on the ground from various viewpoints in the EIR, and purchase conservation easements in the Antelope Valley to offset the loss of open space. The commenter suggests the applicant address the need for a buffer zone between structures large enough to provide space for ground species to migrate within their normal range for food and nesting.
Audubon & Defenders of Wildlife August 30, 2019	The commenter recommends the performance of protocol surveys and appropriate mitigation for the desert tortoise and Mohave ground squirrel. A nest survey for American avocets (<i>Recurvirostra americana</i>) should be performed for this species and a 150-foot buffer should be established between suitable nesting habitat on the dikes and the project boundary. Due to the "lake effect" of solar panel arrays on waterbirds, systematic mortality monitoring and adaptive management should be conducted for a reasonable period once the project becomes operational.
Herb Carlson August 6, 2019	The commenter states support for the proposed project in full.
Tim and Kim Meza August 13, 2019	The commenter expresses general opposition to the proposed project.
Charles Ammann August 20, 2019	The commenter objects to the proposed project based on observations of the existing solar farm located in the area of 120th Street West and Rosamond Boulevard. The commenter states that when the ground is graded for development, dust increases and wildlife habitat is removed. The comment states that the ground beneath the panels is not watered down and results in fugitive dust as well as mudflows offsite. Furthermore, the commenter states concern regarding the use of chromium and cadmium in the solar panels and requests discussion concerning the proposed disposal of items containing these materials. Lastly the commenter suggests that the level of effort needed for project construction would result in more pollution and waste than generating the same amount of electricity from non-renewable sources.
John Tapocik August 26, 2019	The commenter states general opposition to the project and states that project implementation would result in decreased property values for surrounding parcels.
Merlyn Neilson August 27, 2019	The commenter expresses support for the proposed project due to its contribution to the AB32 Clean Energy Act. The commenter also states that they would like their parcel be included in the target area for consolidation.

2.4.3 Availability of the Draft EIR

This Draft EIR is being distributed directly to agencies, organizations, and interested groups and persons for comment during a 45-day formal review period in accordance with Section 15087 of the CEQA *Guidelines*. This Draft EIR and the full administrative record for the project, including all studies, is

available for review during normal business hours Monday through Friday at the Kern County Planning Department, located at:

Kern County Planning and Natural Resources Department

2700 “M” Street, Suite 100

Bakersfield, CA 93301-2370

Phone: (661) 862-8600, Fax: (661) 862-8601

This EIR is also available on the Kern County Planning and Natural Resources Department website: <http://www.co.kern.ca.us/planning/eirs.asp>.

Additionally, this EIR is available at the following libraries:

Kern County Library/Beale

Local History Room

701 Truxtun Avenue

Bakersfield, CA 93301

Kern County Library

Mojave Branch

16916 ½ Highway 14, Space D2

Mojave, CA 93501

2.5 Format and Content

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

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

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

Mineral Resources;

Recreation

The IS/NOP 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 Willow Springs Specific Plan for mineral resources activities; therefore, the project would not have an impact on mineral resources. The proposed project includes an operations and maintenance (O&M) facility that would be located within the project site. Up to 12 full-time or part-time employees would be located at the O&M

facility. Maintenance personnel would be expected to be drawn from the local labor force and would commute from their permanent residences to the project site during those times. However, even if the maintenance employees were hired from out of the area and had to relocate to eastern Kern County, the minor addition of persons to this area would not result in a substantial increase in the number of users at local recreational facilities. As a result, the project would not directly or indirectly contribute a detectable increase in the use of parks or other recreational facilities. No impacts to mineral resources or recreation would occur and no further analysis is warranted.

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

2.5.1 Required EIR Content and Organization

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

TABLE 2-2: REQUIRED EIR CONTENTS

Requirement (CEQA Guidelines Section)	Location in EIR
Table of contents (Section 15122)	Table of Contents
Summary (Section 15123)	Chapter 1
Project description (Section 15124)	Chapter 3
Significant environmental impacts (Section 15126.2)	Sections 4.1–4.18
Environmental setting (Section 15125)	Sections 4.1–4.18
Mitigation measures (Section 15126.4)	Sections 4.1–4.18
Cumulative impacts (Section 15130)	Sections 4.1–4.18
Growth-inducing impacts (Section 15126.2)	Chapter 5
Effects found not to be significant (Section 15128)	Chapters 1, 5; Sections 4.1–4.18
Significant irreversible changes	Chapter 5
Unavoidable significant environmental impacts (Section 15126.2)	Chapter 5
Alternatives to the project (Section 15126.6)	Chapter 6
Organizations and persons consulted	Chapter 8
List of preparers (Section 15129)	Chapter 9
References (Section 15129)	Chapter 10

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

Chapter 1, *Executive Summary*, provides a summary of the project description and a summary of the environmental impacts and mitigation measures.

Chapter 2, *Introduction*, provides CEQA compliance information, an overview of the decision-making process, organization of the EIR, and a responsible and trustee agency list.

Chapter 3, *Project Description*, provides a description of the location, characteristics, and objectives of the projects, and the relationship of the projects to other plans and policies associated with the project.

Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, contains a detailed environmental analysis of the existing conditions, projects impacts, mitigation measures, and cumulative impacts.

Chapter 5, *Consequences of Project Implementation*, presents an analysis of the project's cumulative and growth-inducing impacts and other CEQA requirements, including significant and unavoidable impacts and irreversible commitment of resources.

Chapter 6, *Alternatives*, describes a reasonable range of alternatives to the projects that could reduce the significant environmental effects that cannot be avoided.

Chapter 7, *Responses to Comments*, is reserved for responses to comments on the 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 regards to the project.

“Environmental Setting” describes the physical conditions that exist at this time and that may influence or affect the topic being analyzed.

“Regulatory Setting” provides State and federal laws and the Kern County General Plan goals, policies, and implementation measures that apply to the topic being analyzed.

“Impacts and Mitigation Measures” discusses the impacts of the projects in each category, presents the determination of the level of significance, and provides a discussion of feasible mitigation measures to reduce any impacts.

“Cumulative Setting, Impacts, and Mitigation Measures” provides a discussion of the cumulative geographic area for each resource area, and analysis of whether the project would contribute to a significant cumulative impact, and if so, identifies cumulative mitigation measures.

2.6 Responsible and Trustee Agencies

Projects or actions undertaken by the lead agency, in this case the Kern County Planning and Natural Resources Department and the California State Lands Commission, may require subsequent oversight, approvals, or permits from other public agencies in order to be implemented. Other such agencies are

referred to as “responsible agencies” and “trustee agencies.” Pursuant to Sections 15381 and 15386 of the CEQA *Guidelines*, as amended, responsible agencies and trustee agencies are defined as follows:

A “responsible agency” is a public agency that proposes to carry out or approve a project, for which a lead agency is preparing or has prepared an EIR or Negative Declaration. For the purposes of CEQA, the term “responsible agency” includes all public agencies other than the lead agency that have discretionary approval power over the project (Section 15381).

A “trustee agency” is a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California (Section 15386).

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

2.6.1 Federal Agencies

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

2.6.2 State Agencies

Governor’s Office of Planning and Research (OPR)
California Energy Commission (CEC)
California Air Resources Board (CARB)
California Public Utilities Commission (CPUC)
California Department of Fish and Wildlife (CDFW)
Lahontan Regional Water Quality Control Board (RWQCB)
California Department of Transportation (Caltrans), District 9
California Native American Heritage Commission (NAHC)

2.6.3 Local Agencies

Eastern Kern County Air Pollution Control District (EKAPCD)
Kern Council of Governments (KCOG)

2.6.4 Kern County

Planning and Natural Resources Department
Public Works Department

Public Health Services Department, Environmental Health Division

Fire Department (KCFD)

Sheriff's Department

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

2.7 Incorporation by Reference

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

2.7.1 Kern County General Plan

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

2.7.2 Willow Springs Specific Plan

The Willow Springs Specific Plan was drafted in 1992 for the unincorporated community of Willow Springs. The plan includes the following elements: land use, seismic/safety; circulation; housing; noise; and open space/conservation. Within each of these element categories, an existing setting, policies and implementation strategies for those policies are provided.

2.7.3 Kern County Zoning Ordinance

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

- Provide the economic and social advantages resulting from an orderly planned use of land resources;

- Encourage and guide development consistent with the Kern County General Plan;

- Divide Kern County into zoning districts of a number, size, and location deemed necessary to carry out the purposes of the Kern County General Plan and this title;

- Regulate the size and use of lots, yards, and other open spaces;

- Regulate the use, location, height, bulk, and size of buildings and structures;

- Regulate the intensity of land use;
- Regulate the density of population in residential areas;
- Establish requirements for off-street parking;
- Regulate signs and billboards; and
- Provide for the enforcement of the regulations of Chapter 19.02.

2.7.4 Regional Transportation Plan

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

2.7.5 Kern County Airport Land Use Compatibility Plan

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

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

2.8 Sources

This EIR is dependent upon information from many sources. Some sources are studies or reports that have been prepared specifically for the project. Other sources provide background information related to one or more issue areas that are discussed in this document. The sources and references used in the preparation of this EIR are listed in Chapter 10, *Bibliography*, and are available for review during normal business hours

at the Kern County Planning and Natural Resources Department, located at 2700 “M” Street, Suite 100, Bakersfield, CA 93301-2370. This EIR is also available on the Kern County Planning and Natural Resources Department website: <https://kernplanning.com/planning/environmental-documents/>.

3.1 Introduction

This Environmental Impact Report (EIR) has been prepared by Kern County (County), which is the Lead Agency, to identify and evaluate potential environmental impacts associated with implementation of the approximately 2,285-acre BigBeau Solar Project (project) proposed by BigBeau Solar, LLC (project proponent/operator). The project proposes to construct and operate a photovoltaic (PV) solar facility and associated infrastructure necessary to generate a combined 128 megawatts (MW) (alternating current or “AC”) of renewable electrical energy and up to 60 MW of a Battery Energy Storage System (BESS).

The project site encompasses a study area that includes both privately owned and publicly owned land. While the majority of the site (approximately 2,125 acres) have either been purchased or leased by the project proponent, one parcel (approximately 160 acres) is owned by the California State Lands Commission (Commission). As Lead Agency, the County of Kern will be considering the privately owned parcels during consideration of this project. The State Lands Commission parcel is not subject to the local permitting authority of Kern County and will need to be separately considered by the State Lands Commission. Although only one route would be constructed, the proposed project and this environmental analysis evaluates four primary options for generation tie (gen-tie) to the grid as outlined in more detail below.

3.2 Project Location

The project is located in the south-eastern portion of Kern County in central California, as shown in **Figure 3-1, Site Vicinity**. The project site is approximately 12 miles southwest of State Route 58 (SR-58) and approximately 9 miles east of State Route 14 (SR-14). The project is approximately 13 miles south of the City of Tehachapi, and 1.9 miles northwest of the unincorporated community of Rosamond. Other communities within the vicinity of the project site include the City of California City in Kern County and the cities of Lancaster and Palmdale in Los Angeles County, which are roughly 17 miles northeast, 9 miles southeast, and 24 miles southeast of the project, respectively. Edwards Air Force Base is approximately 22 miles east of the project’s eastern boundary. Existing development in the project vicinity includes rural access roads, rural residences, producing and non-producing water wells, off-highway vehicle use, cattle ranching and maintenance facilities, mining, wind and solar energy facilities, and meteorological towers. A portion of the Pacific Crest Trail (PCT) is located approximately 4.4 miles west of the project site.

The project site is generally bound by Avenue of the Stars to the South, the intersection of 125th Street and Champagne Avenue to the north, 135th Street West to the west, and 105th Street West to the east. Primary access to the project site from the regional transportation system would be gained by exiting SR-14, which is approximately 9 miles east, on to Rosamond Boulevard. The project site can be accessed by traveling west on Rosamond Boulevard, north on 140th Street West, and east on either Avenue of the Stars or Hamilton Road. Other routes for project access include the existing Catalina Solar project access road, the intersection of Avenue of the Stars and 130th Street West, and Favorito Avenue east of 110th Street West.

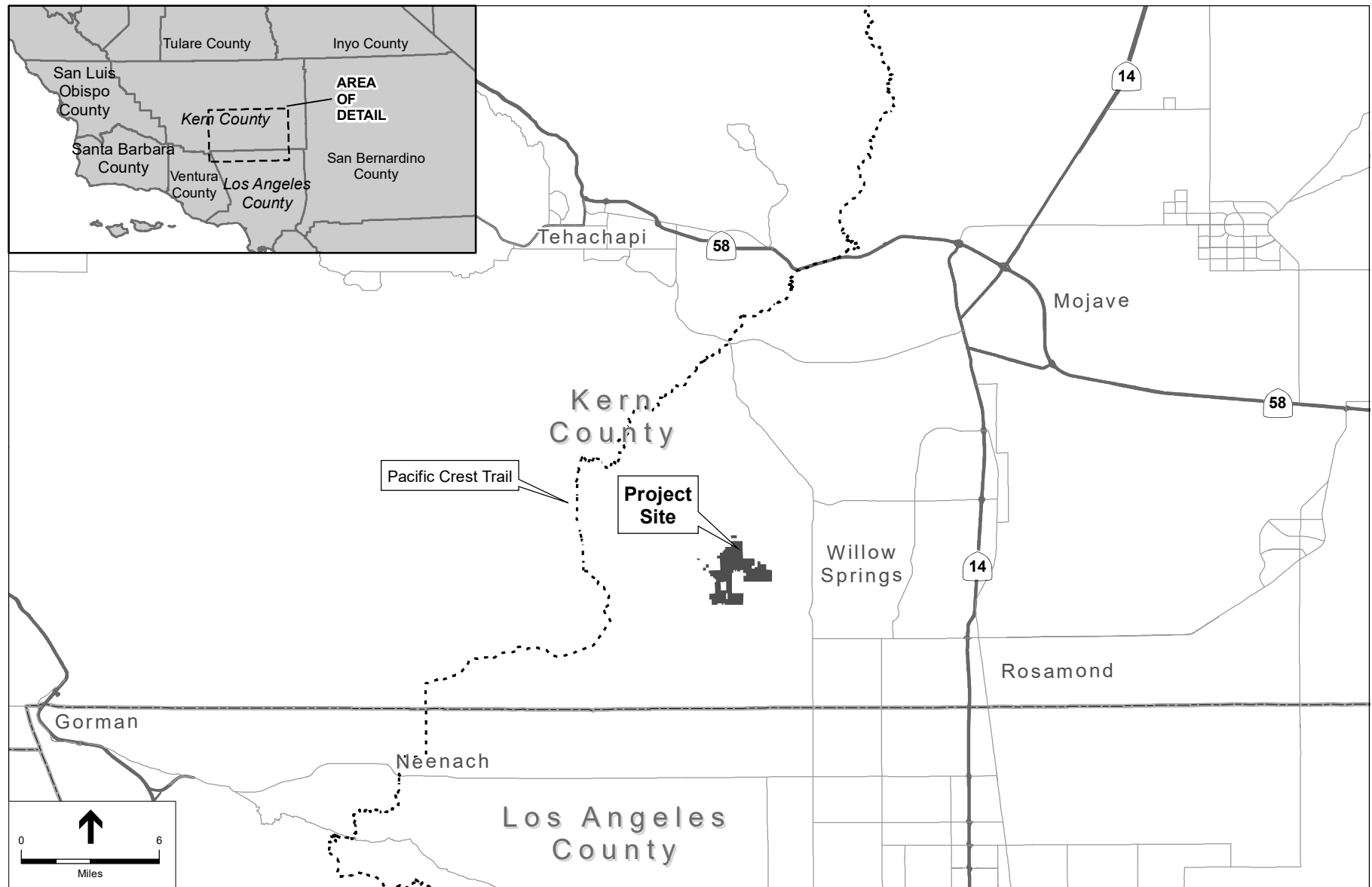


FIGURE 3-1: SITE VICINITY

As shown in **Figure 3-2, Project Site Boundary and Site Plan**, the proposed project consists of solar and energy storage facilities, which together would comprise the project site. The project site has four options for interconnection, as shown in **Figure 3-3, Gen-Tie Options**:

Gen-tie Option 1 – The proposed project’s preferred gen-tie line (Gen-tie Option 1) would exit the project boundary heading northwest approximately 2 miles where it would connect into the existing substation at the Valentine Solar Project. From there the transmission would utilize Valentine’s existing built facility to connect on to the Antelope Valley Transmission Line (AVTL). The Valentine gen-tie route, Catalina Solar, and Pacific Wind gen-tie lines and connection into the SCE Whirlwind Substation were previously analyzed, approved via certified EIR and built accordingly. Other potential alternative routes for a portion of Gen-tie Option 1 are under consideration and are shown as Options 1.1, 1.2, and 1.3 in Figure 3-3.

Gen-tie Option 2 – Gen-tie Option 2 would exit the northern boundary of the project heading northeast approximately 2 miles where it would connect into the existing substation at the Catalina Solar project. AVTL and connection to the SCE Whirlwind Substation were previously analyzed, approved via a certified EIR, and built accordingly.

Gen-tie Option 3 – Gen-tie Option 3 would exit the western boundary of the project heading west 0.3 mile to SCE’s TRTP and then southwest approximately 2.5 miles adjacent to the TRTP, then west 3.5 miles where it would connect into the existing Rose Meadow Substation. Additionally, a potential alternative route for a portion of Gen-tie Option 3 is under consideration and is shown as Option 3.1 in Figure 3-3.

Gen-tie Option 4 – Gen-tie Option 4 would be an extension of Gen-tie Option 1, and instead of connecting to the Valentine Substation, it would continue north of the Valentine Substation, tapping into the existing 220 kV AVTL. Also, one potential alternative route for Gen-tie Option 4 is under consideration, as shown as Option 4.1 in Figure 3-3. Options 4 and 4.1 were previously analyzed as part of the Valentine Solar Project, and approved in a certified EIR. Gen-tie routes would require crossings of the Los Angeles Department of Water and Power (LADWP) aqueduct(s) and all crossings would adhere to LADWP standards.

The project site is within the U.S. Geological Survey (USGS) 7.5-minute series, Tylerhorse Canyon and Willow Springs, California, topographic quadrangle. The project site is located in the following Sections, Townships, and Ranges: Sections 27, 34 and 35 of Township 10 North, Range 14 West & Section 2, 3, 4, 9 and 10 of Township 9 North, and Range 14 West in the East San Bernardino Base and Meridian (SBB&M).

The project site consists of 195 total parcels that have been purchased, leased, or are in the process of purchase or lease acquisition by the project proponent. The project site is subject to the provisions of the adopted Kern County General Plan, Willow Springs Specific Plan, and the Kern County Zoning Ordinance. The site is primarily designated for resource or residential use by the Kern County General Plan and Willow Springs Specific Plan and is zoned primarily agricultural or estate residential as specified in **Table 3-1, Project Site and Surrounding Land Uses**, below.



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT

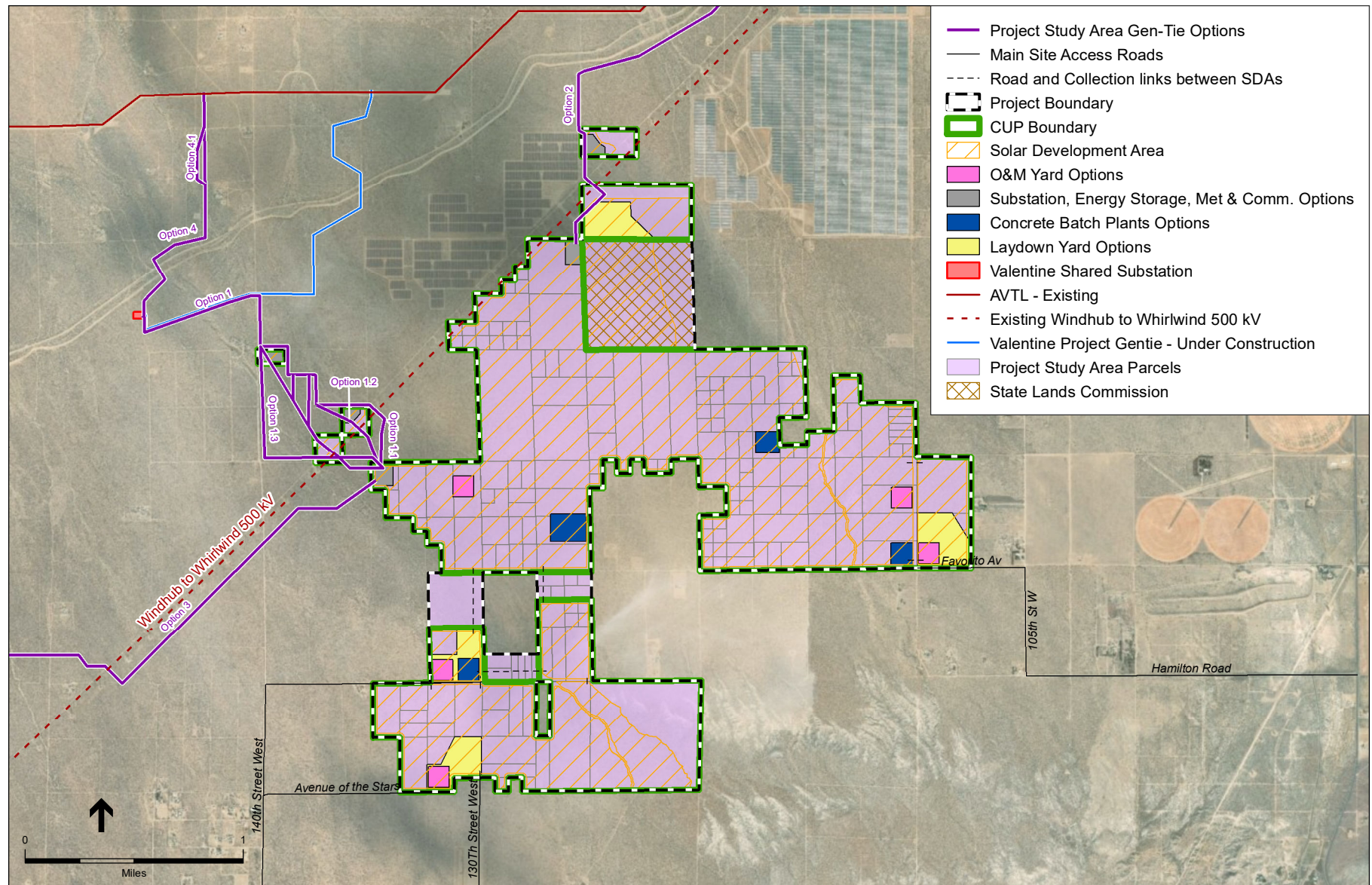


FIGURE 3-2: PROJECT SITE BOUNDARY AND SITE PLAN

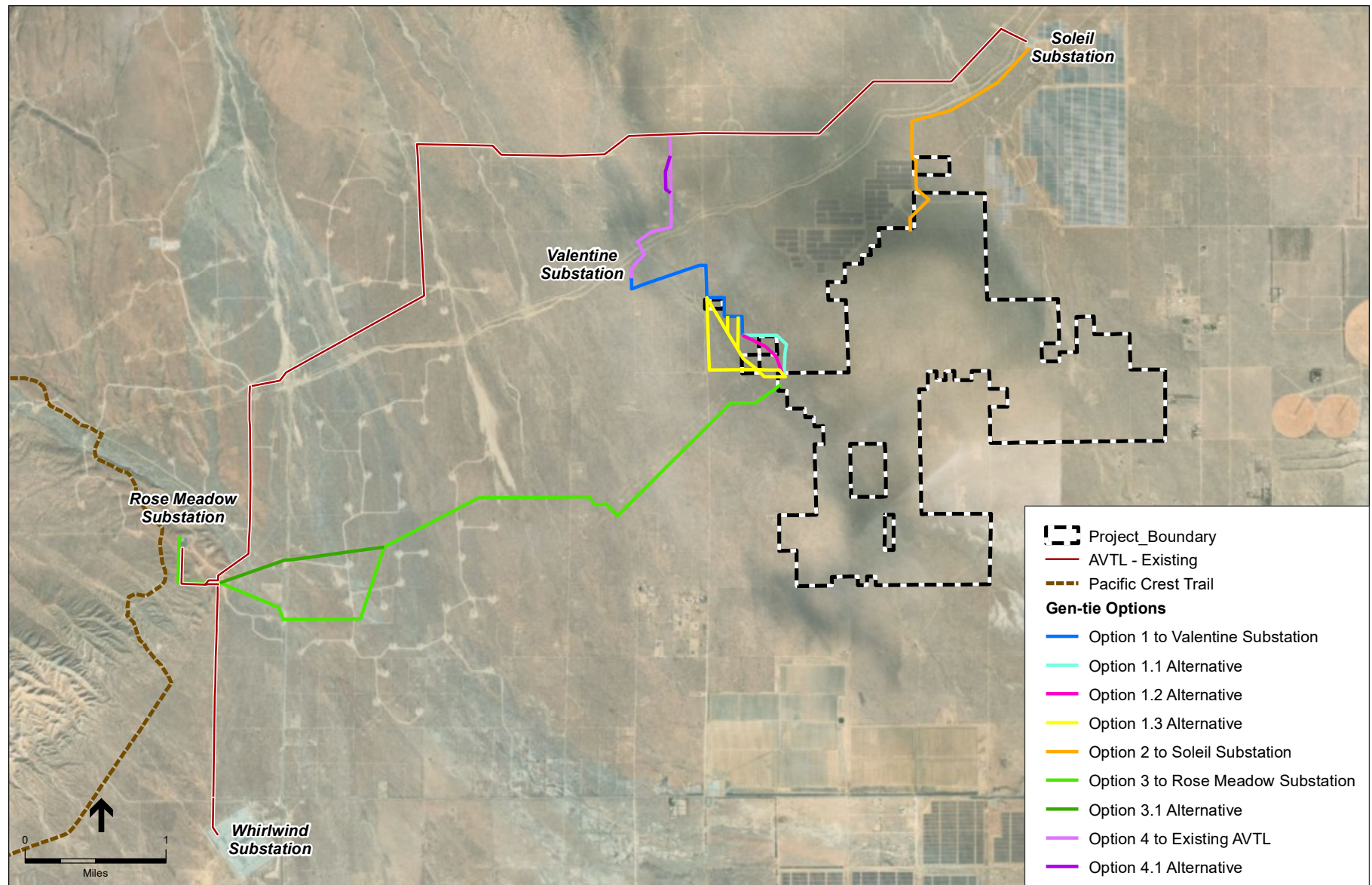


FIGURE 3-3: GEN-TIE OPTIONS

TABLE 3-1: PROJECT SITE AND SURROUNDING LAND USES

	Existing Land Use	Existing General Plan Designation	Existing Zoning Classification
Project Site	Vacant Land	8.3 (Extensive Ag/20-acre min); 8.5 (Resource Management – Minimum 20-Acre Size); 8.3/2.5 (Extensive Ag./Flood Hazard); 8.5/2.1 (Resource Management/Seismic Hazard); 8.5/2.5 (Resource Management/Flood Hazard); <i>Willow Springs Specific Plan:</i> 5.7 (Residential – Minimum 5 Gross Acres/Unit); 5.75 (Residential – Minimum 10 Gross Acres/Unit); 5.8 (Residential – Minimum 20 Gross Acres/Unit); 5.8/2.1 (Residential – Minimum 20 Gross Acres/Unit/Seismic Hazard)	A (Exclusive Agriculture); A FP (A – Floodplain Combining); A FPS (A – Floodplain Secondary); A GH (A – Geologic Hazard Combining); A GH FPS (A – Geologic Hazard – Floodplain Secondary); E-2.5 RS FPS (Estate 2.5 acres – Residential Suburban – Floodplain Secondary); E-5 RS FPS (Estate 5 acres – Residential Suburban – Floodplain Secondary); E-10 RS FPS (Estate 10 acres – Residential Suburban – Floodplain Secondary); E-10 RS GH FPS (Estate 10 acres – Residential Suburban – Geologic Hazard – Floodplain Secondary); E-10 RS MH FPS (Estate 10 acres – Mobile Home Combining – Floodplain Secondary); E-20 RS FPS (Estate 20 acres - Residential Suburban - Floodplain Secondary); E-20 RS GH FPS (Estate 20 acres – Residential Suburban – Geologic Hazard – Floodplain Secondary); PL RS FPS (Platted Lands – Residential Suburban – Floodplain Secondary)
	Solar Energy, Scattered Single-family homes; Vacant Land	8.3 (Extensive Ag/20-acre min); 8.3/2.5 (Extensive Ag./Flood Hazard); 8.5 (Resource Management/20-acre min)	A (Exclusive Agriculture); A FP (A – Floodplain Combining); A FPS (A – Floodplain Secondary); A WE (A – Wind Energy); PL RS (Platted Land – Residential Suburban); PL RS FPS (Platted Lands – Residential Suburban – Floodplain Secondary)
	Scattered Single-family homes; Vacant Land	<i>Willow Springs Specific Plan:</i> 5.7 (Residential – Minimum 5 Gross Acres/Unit); 5.75 (Residential – Minimum 10 Gross Acres/Unit); 5.8 (Residential – Minimum 20 Gross Acres/Unit)	E-5 RS FPS (Estate 5 acres – Residential Suburban – Floodplain Secondary); E-10 RS FPS (Estate 10 Acres – RS FPS); E-20 RS FPS (Estate 10 Acres – RS FPS)
North			
South			

TABLE 3-1: PROJECT SITE AND SURROUNDING LAND USES

	Existing Land Use	Existing General Plan Designation	Existing Zoning Classification
East	Scattered Single-family homes; Solar Energy; Vacant Land	8.5 (Resource Management/20-acre min) <i>Willow Springs Specific Plan:</i> 5.8 (Residential – Minimum 20 Gross Acres/Unit)	A (Exclusive Agriculture); A FP (A – Floodplain Combining); A FPS (A – Floodplain Secondary); E-20 RS FPS (Estate 20 Acres – Residential Suburban – Floodplain Secondary); PL RS (Platted Land – Residential Suburban); PL RS FPS (Platted Lands – Residential Suburban – Floodplain Secondary)
	Wind & Solar Energy; Vacant Land	8.3 (Extensive Ag/20-acre min); 8.5 (Resource Management/20-acre min) <i>Willow Springs Specific Plan:</i> 1.1 (State or Federal Land); 5.8 (Residential – Minimum 20 Gross Acres/Unit); 8.5 (Resource Management/20-acre min)	A (Exclusive Agriculture); A FP (A – Floodplain Combining); A FPS (A – Floodplain Secondary); A WE (A – Wind Energy)
West			

The project site consists of one additional parcel owned by the Commission. The Commission manages a 160-acre school land parcel within the Project area. In its Inventory of Unconveyed State School Lands & Tide & Submerged Lands Possessing Significant Environmental Values, the Commission identified this school land parcel as having significant environmental values as Desert Tortoise habitat and for Off highway Vehicle recreational use (Pub Resources Code, Section 6370; California Code of Regulation, Section 2952). Any projects planned for the school land parcel must be designed to be consistent with the permanent protection that is afforded to these identified values (California Code of Regulation, Section 2954). These lands were identified and nominated in 1974 by California Department of Fish and Wildlife for Desert Tortoise habitat and by Kern County for Off Highway Recreational Vehicle recreation resources.

The Assessor Parcel Numbers (APNs) are summarized in **Table 3-2**, Project Assessor Parcel Numbers – Kern County, and **Table 3-3**, Project Assessor Parcel Numbers – State Lands Commission.

TABLE 3-2: PROJECT ASSESSOR PARCEL NUMBERS (APNs) – KERN COUNTY

Map 215				
474-131-03	474-131-06	474-131-07	474-131-12	474-131-13
474-131-18	474-131-19	474-131-20	474-131-21	474-131-22
474-131-25	474-131-26	474-131-27	474-131-28	474-132-01
474-132-02	474-132-03	474-132-04	474-132-05	474-132-06
474-132-07	474-132-08	474-132-09	474-132-10	474-132-12
474-132-13	474-132-14	474-153-25	474-153-26	474-231-01

TABLE 3-2: PROJECT ASSESSOR PARCEL NUMBERS (APNs) – KERN COUNTY

474-231-02	474-231-03	474-231-04	474-231-05	474-231-07
474-231-08	474-231-09	474-231-10	474-231-11	474-231-13
474-231-14	474-231-15	474-231-16	474-231-17	474-231-19
474-231-20	474-231-21	474-231-23	474-231-24	474-231-26
474-231-27	474-231-28	474-231-29	474-231-32	474-231-35
474-231-37	474-232-20	474-232-23	474-232-24	474-232-25
474-232-26	474-232-27	474-232-28	474-232-29	474-232-30
474-232-31	474-232-32	474-232-33	474-232-34	474-232-35
475-171-22	475-171-23	475-171-24	475-171-25	475-190-21
475-190-23	475-190-24			
Map 232				
358-010-01	358-051-01	358-051-02	358-061-01	358-061-02
358-061-04	358-061-05	358-061-06	358-061-07	358-061-08
358-061-09	358-061-10	358-061-11	358-061-12	358-061-13
358-061-14	358-061-15	358-061-16	358-061-17	358-061-19
358-061-20	358-061-21	358-061-22	358-061-23	358-061-24
358-061-25	358-061-30	358-061-31	358-061-32	358-061-33
358-061-36	358-061-37	358-061-38	358-061-40	358-061-41
358-061-42	358-061-46	358-061-47	358-081-01	358-081-03
358-081-05	358-081-06	358-081-17	358-101-01	358-101-02
358-101-04	358-101-05	358-101-06	358-101-07	358-101-08
358-101-09	358-101-11	358-101-12	358-101-13	358-101-15
358-101-16	358-101-17	358-101-18	358-101-19	358-101-20
358-101-21	358-102-03	358-102-05	358-102-23	358-102-24
358-102-25	358-102-26	358-102-33	358-102-35	358-102-36
358-102-37	358-102-39	358-102-40	358-102-41	358-102-43
358-102-45	358-102-47	358-102-49	358-102-50	358-102-53
358-102-54	358-112-01	358-112-02	358-112-04	358-112-05
358-112-06	358-112-07	358-112-13	358-112-14	358-112-24
358-112-25	358-112-26	358-112-28	358-112-29	358-112-30
358-112-31	358-112-32	358-141-16	358-141-19	358-141-20
358-141-21	358-141-31	358-141-32	358-141-33	358-141-35
358-141-36	358-141-40	358-141-41	358-141-42	358-240-05
358-240-06	358-240-08	358-240-31	358-240-33	358-240-34
358-240-35	358-240-36	358-240-37		

TABLE 3-3: PROJECT ASSESSOR PARCEL NUMBERS (APNS) – STATE LANDS COMMISSION**Map 215**

474-131-04

3.3 Project Objectives

The proposed project would provide the State of California (State) with a renewable energy source that would assist the State in complying with the Renewables Portfolio Standard (RPS) under Senate Bill (SB) 350 (2015), which requires that 50 percent of all electricity sold in the state to be generated from renewable energy sources by December 31, 2030. Senate Bill 100 was approved in September 2018 and would increase the RPS to a 100 percent goal by 2045.

The following is a list of project objectives identified by the project applicant:

Utilize property within Kern County for the placement of a large scale solar PV facility that includes battery storage;

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 Senate Bill 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 Senate Bill 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 increases RPS in 2030 from 50 percent to 60 percent and establishes a goal of 100 percent RPS by 2045;

Develop an economically feasible and commercially financeable project;

Provide solar-generated electricity to the California Independent System Operator (CAISO) grid;

Assist Kern County in promoting its role as the State's leading producer of renewable energy;

Provide green jobs to Kern County and the state of California; and

Site and design the project in an environmentally responsible manner consistent with current Kern County guidelines.

3.4 Environmental Setting

3.4.1 Regional Setting

The project site is located at the western edge of the Antelope Valley on lands that gradually slope downward from the northwest to the southeast. Elevations across the project site range from approximately 3,000 feet above mean sea level (msl) in the northwest portion of the site to approximately 2,800 feet above msl in the southeast portion of the site. The topography of the project area generally slopes to the southeast

as the project site is south of the Tehachapi Mountains. Desert vegetation dominates the region. Communities within the vicinity of the project site are the City of California City and the cities of Lancaster and Palmdale in Los Angeles County. Edwards Air Force Base is approximately 22 miles east of the project's eastern boundary.

There are several proposed, existing, and permitted solar energy and transmission projects in the region where the project site is located. As shown in **Figure 3-4, Surrounding Solar Projects**, the Valentine Solar Project, located to the immediate west of the proposed project, was approved by the Board of Supervisors in June 2016, and is operational as of December 2019. The Catalina Renewable Energy Project, located immediately north of the project's northeastern boundary, was approved by the Board of Supervisors in December 2011, with an Addendum approved by the Board of Supervisors in March 2014. Currently, 128 MW are operational, 110 MW (Catalina Solar) and 18 MW (Catalina Solar 2) was completed in 2015. Additionally, the AVEP Solar Project is currently undergoing environmental review and is proposed just south of and adjacent to the project site. Additionally, the following projects have been approved in Eastern Kern County: The Pacific Wind and PdV Manzanita Projects, the Beacon Photovoltaic Project, GE Energy LLC, LADWP, RE Distributed Solar Projects (Barren Ridge 1, Columbia One, Columbia Two, Great Lakes), Rosamond Solar Project, Kingbird Solar, SEPV Mojave West Solar Project, Fremont Solar (Springbok 2 Solar Farm) Project, Windhub Solar Project, and Eland 1 Solar Project.

3.4.2 Surrounding Land Uses and Project Site Conditions

The project site is located west of the unincorporated community of Willow Springs in southeastern Kern County, California (**Figure 3-1, Vicinity Map**). The project site is generally bound by Avenue of the Stars to the south, the intersection of 125th Street and Champagne Avenue to the north, 135th Street West to the west and 105th Street West to the east. Existing development in the project vicinity includes rural access roads, scattered rural residences, producing and non-producing water wells, off-highway vehicle use, cattle ranching and maintenance facilities, mining, wind and solar energy projects, and meteorological towers. A portion of the Pacific Crest Trail (PCT) is approximately 4.4 miles west of the project site.

The entirety of the project site (solar facility development area) is located within a Federal Emergency Management Agency (FEMA) designated flood zone, as depicted in **Figure 3-5, FEMA Flood Zone Hazard**.

Based on a review of records maintained by the California Department of Conservation/Division of Oil, Gas and Geothermal Resources (DOGGR), wells were not identified on the project site (<https://maps.conservation.ca.gov/doggr/wellfinder/#close>).

The project would be served by the Kern County Sheriff's Office (KCSO) for law enforcement and public safety, Kern County Fire Department (KCFD) for fire protection, and Kern County Medical Emergency Service for emergency medical and rescue services. The closest KCSO Substation is the Mojave Substation located approximately 13 miles northeast of the project site at 1171 SR-58 in the community of Mojave. The nearest KCFD fire station that would serve the project is Station No. 15 (Rosamond), located at 3219 35th Street in the community of Rosamond, approximately 7.6 miles southeast of the project site. The nearest hospitals are the Antelope Valley Hospital, in the City of Lancaster, approximately 17.1 miles to the south and the Tehachapi Hospital, in the City of Tehachapi, approximately 15.2 miles to the northwest. The nearest school to the project site is Tropico Middle School, located approximately 5.8 miles southeast in the community of Rosamond.

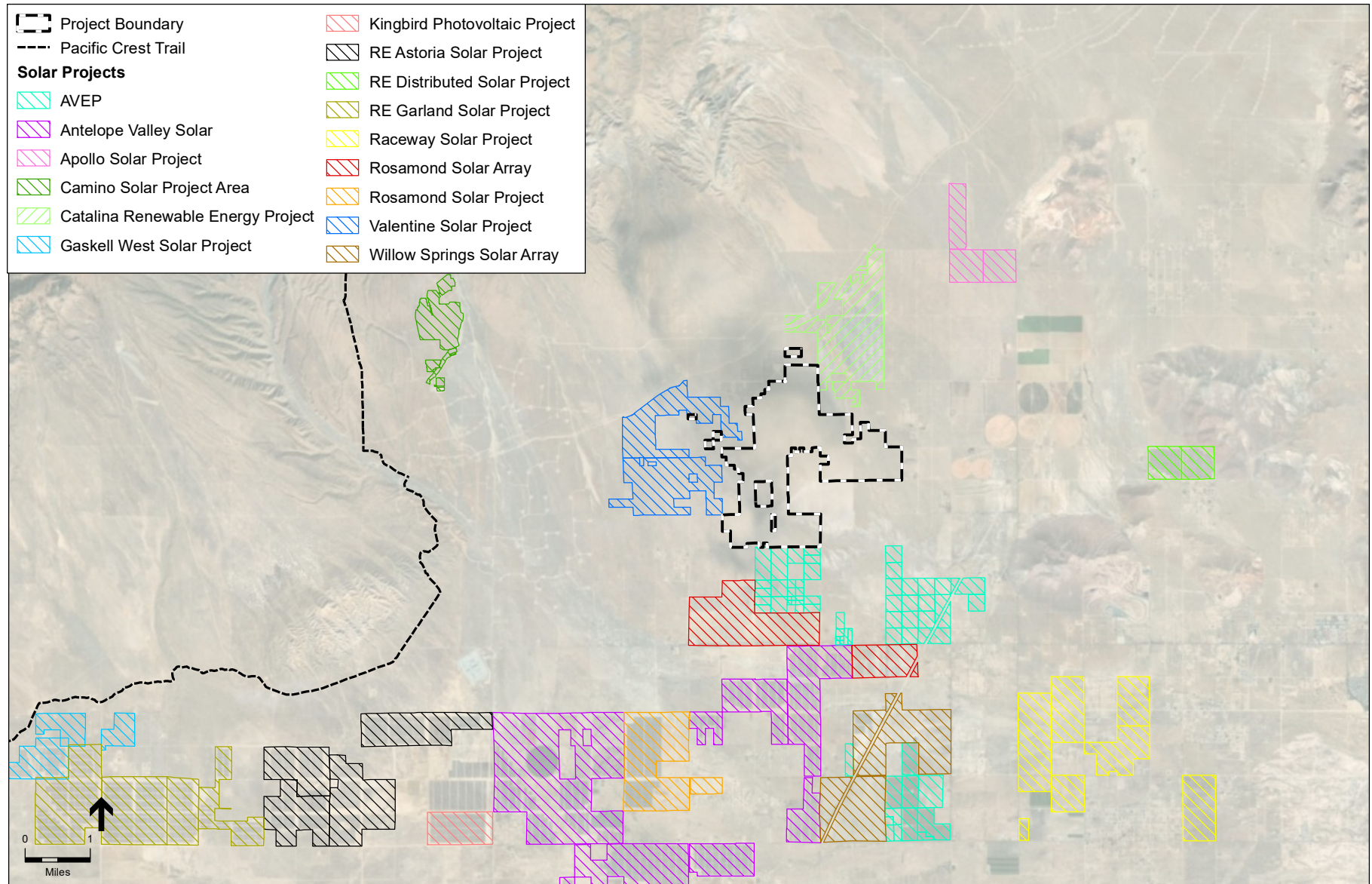


FIGURE 3-4: SURROUNDING SOLAR PROJECTS

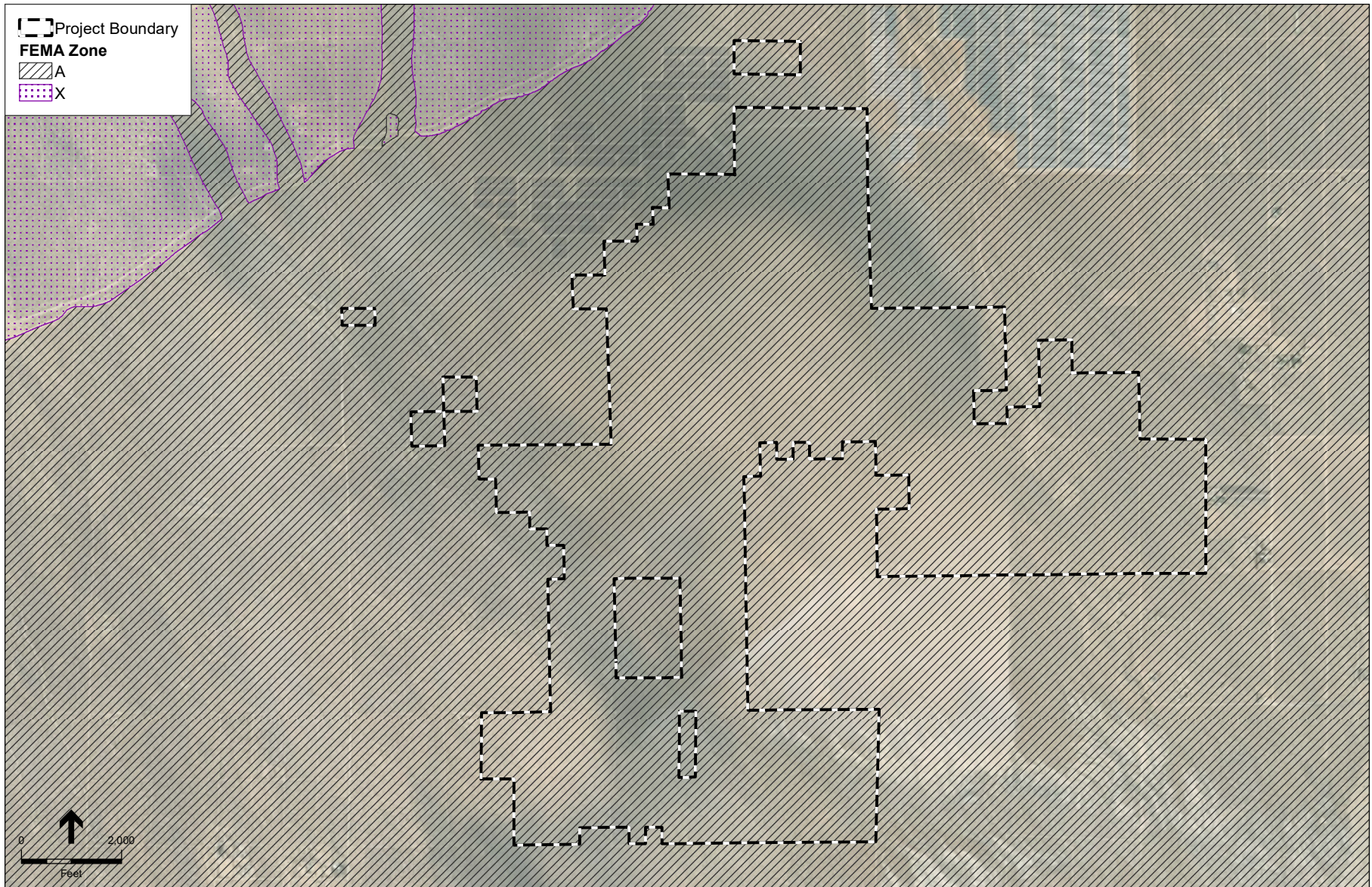


FIGURE 3-5: FEMA FLOOD ZONE HAZARD

The project site is not designated by the California Department of Conservation (DOC) as prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The DOC designates the project site as “Nonagricultural and Natural Vegetation” (DOC 2019). Approximately 954 acres of the project site are within the Kern County Agricultural Preserve Number 24 boundary.

Private land within locally designated agricultural preserve areas is eligible for enrollment under a Williamson Act contract. Participation in the Williamson Act program, which is voluntary for landowners, is dependent on a County’s willingness to adopt and implement the program. The rules of each agricultural preserve specify the allowed uses. Local governments may identify compatible uses that can be permitted under a use permit (DOC, 2015); which the County does by way of its Exclusive Agriculture zone. Additionally, California Government Code Section 51238 states that, unless otherwise decided by a local board or council, the erection, construction, alteration, or maintenance of electric and communication facilities, as well as other facilities, are determined to be compatible uses within any agricultural preserve.

Therefore, the proposed project would be compatible with the Kern County Agriculture Preserve Number 24. Further, there are no parcels within the project site that are under any Williamson Act contracts or being used for agriculture.

3.5 Land Use and Zoning

3.5.1 Kern County General Plan and Willow Springs Specific Plan

The project site is located within unincorporated Kern County and within the administrative boundaries of both the Kern County General Plan and the Willow Springs Specific Plan. Within the Kern County General Plan, the project site is designated Map Code(s) 8.3 (Extensive Ag - 20-acre min), 8.5 (Resource Management - Minimum 20 Acre Size), 8.3/2.5 (Extensive Ag/Flood Hazard), 8.5/2.1 (Resource Management/Seismic Hazard), and 8.5/2.5 (Resource Management/Flood Hazard). Within the Willow Springs Specific Plan, the project site is designated Map Code(s) 5.7 (Residential - Minimum 5 Gross Acres/Unit), 5.75 (Residential - Minimum 10 Gross Acres/Unit), 5.8 (Residential - Minimum 20 Gross Acres/Unit), and 5.8/2.1 (Residential – Minimum 20 Gross Acres/Unit/Seismic Hazard). The existing Kern County General Plan and Willow Springs Specific Plan designations are shown in **Figure 3-6, General Plan and Land Use Designations**. The existing land uses of the project and its surroundings are listed in **Table 3-1, Project Site and Surrounding Land Uses**, above, and depicted in **Figure 3-2, Project Site Boundary and Site Plan**.

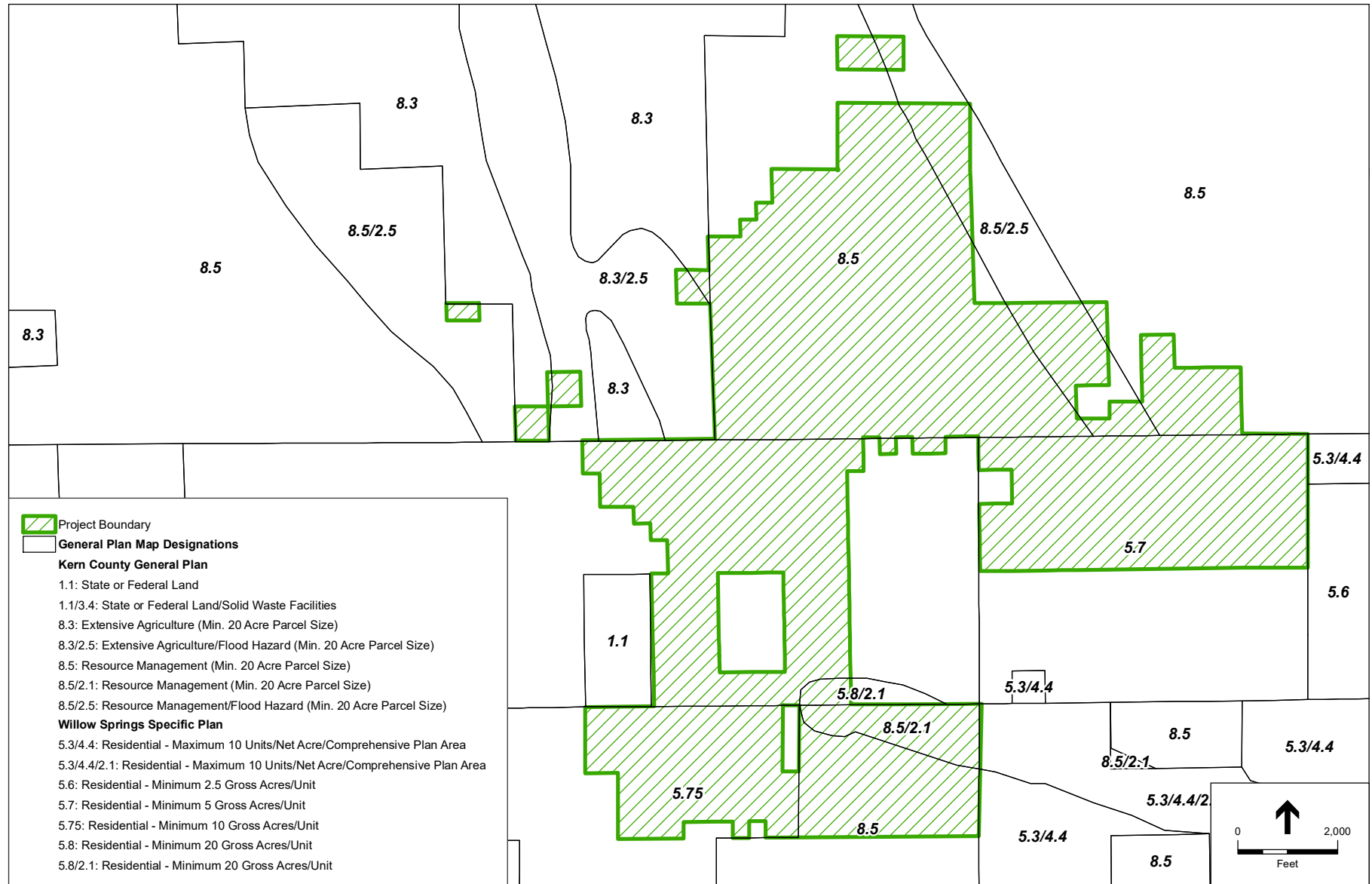


FIGURE 3-6: GENERAL PLAN AND LAND USE DESIGNATIONS

3.5.2 Kern County Zoning Ordinance

The entire project site is vacant, undeveloped, and does not support agricultural uses, past or present. The project site has various zone classifications which include; A (Exclusive Agriculture), A FP (Exclusive Agriculture - Floodplain Combining), A FPS (Exclusive Agriculture - Floodplain Secondary Combining), A GH (Exclusive Agriculture – Geologic Hazard Combining), A GH FPS (Exclusive Agriculture – Geologic Hazard Combining – Floodplain Secondary Combining), E-2.5 RS FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-5 RS FPS (Estate Residential – 5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-10 RS FPS (Estate Residential – 10 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-10 RS GH FPS (Estate Residential – 10 acres Minimum – Residential Suburban Combining – Geologic Hazard Combining – Floodplain Secondary Combining), E-10 RS MH FPS (Estate Residential – 10 acres Minimum – Mobile Home Combining – Floodplain Secondary Combining), E-20 RS FPS (Estate Residential - 20 acres Minimum - Residential Suburban Combining - Floodplain Secondary Combining), E-20 RS GH FPS (Estate Residential – 20 acres Minimum – Residential Suburban Combining – Geologic Hazard Combining – Floodplain Secondary Combining), and PL RS FPS (Platted Lands - Residential Suburban Combining - Floodplain Secondary Combining). The entire project is subject to the provisions of the Kern County Zoning Ordinance and is zoned as specified in Table 3-1, above, and depicted in **Figure 3-7**, *Existing Zoning Classifications* and **Figure 3-8**, *Proposed Zoning Classifications*.

3.6 Project Overview

The proposed project would include the development a solar facility and associated infrastructure with the capacity to generate up to 128 MW of electricity through solar power derived from either fixed-tilt or tracker technology and up to 60 MW of a BESS, on 2,285 acres of privately-owned land, and one 160-acre parcel owned by the State of California, in the southern portion of Kern County, west of the community of Rosamond. The proposed project consists of the following requests:

Approval to allow the vacation of existing public access easements on the project site as shown in **Figure 3-9a–e**, *Public Access Easement Vacations*. 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. In the cases where one of the proposed vacations removes primary access to a parcel, the project proponent would be responsible for recording private easements for access purposes prior to the vacation being recorded. In most cases, the proposed private easements would be recorded along with the vacation of the original public easement.

Amendment to the Circulation Element of the Kern County General Plan and the Willow Spring Specific Plan to remove sections and midsection line road reservations, as follows and shown in **Figure 3-10**, *Circulation Element Road Reservation Removal*:

The Section line between Section 4, T9N, R14W and Section 3, T9N, R14W;

The north half of the Section line between Section 9, T9N, R14W and Section 10, T9N and R14W;

The east half of the Section line between Section 27, T10N, R14W and Section 34, T10N, R14W;



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT

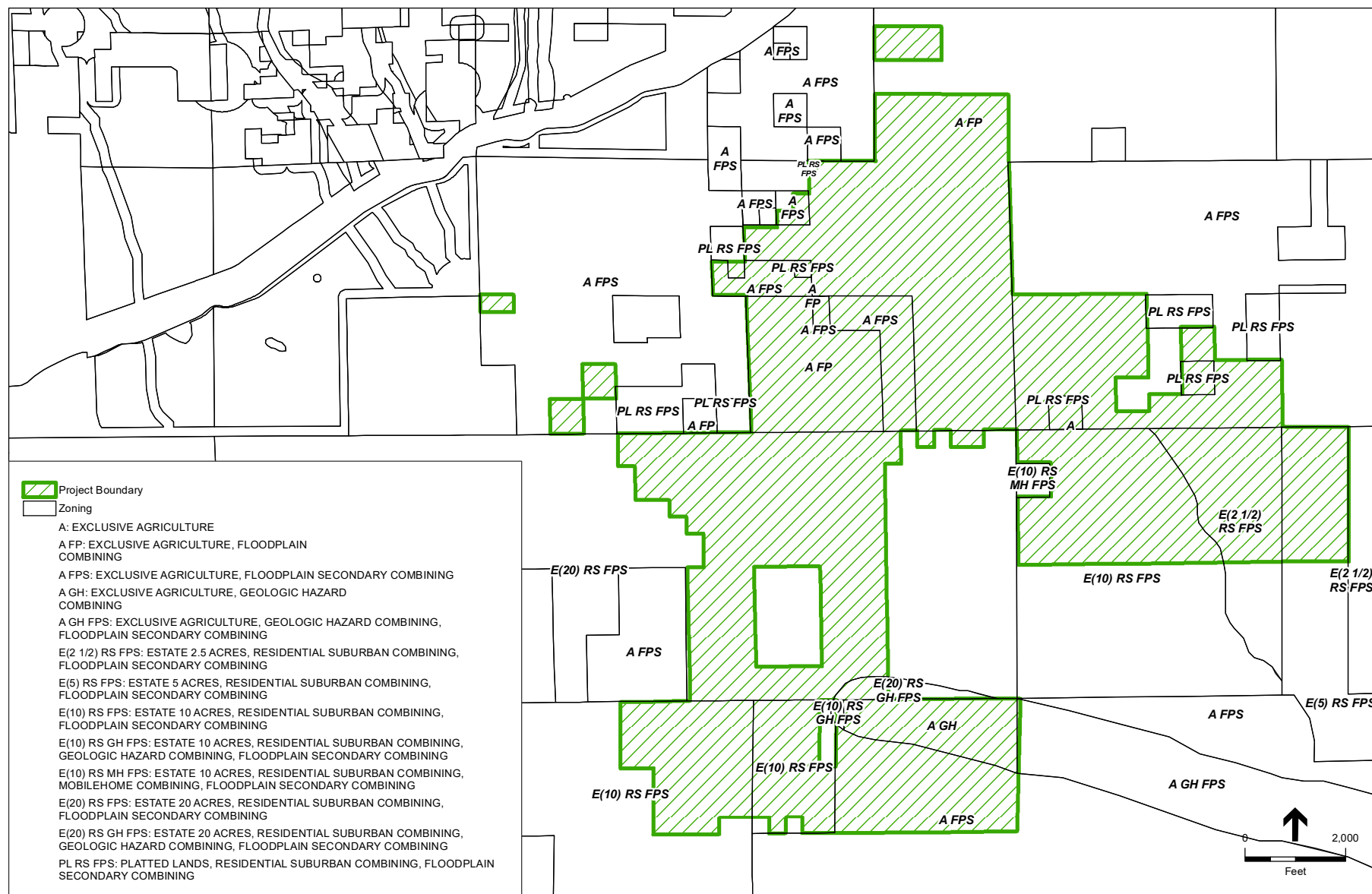


FIGURE 3-7: EXISTING ZONING CLASSIFICATIONS

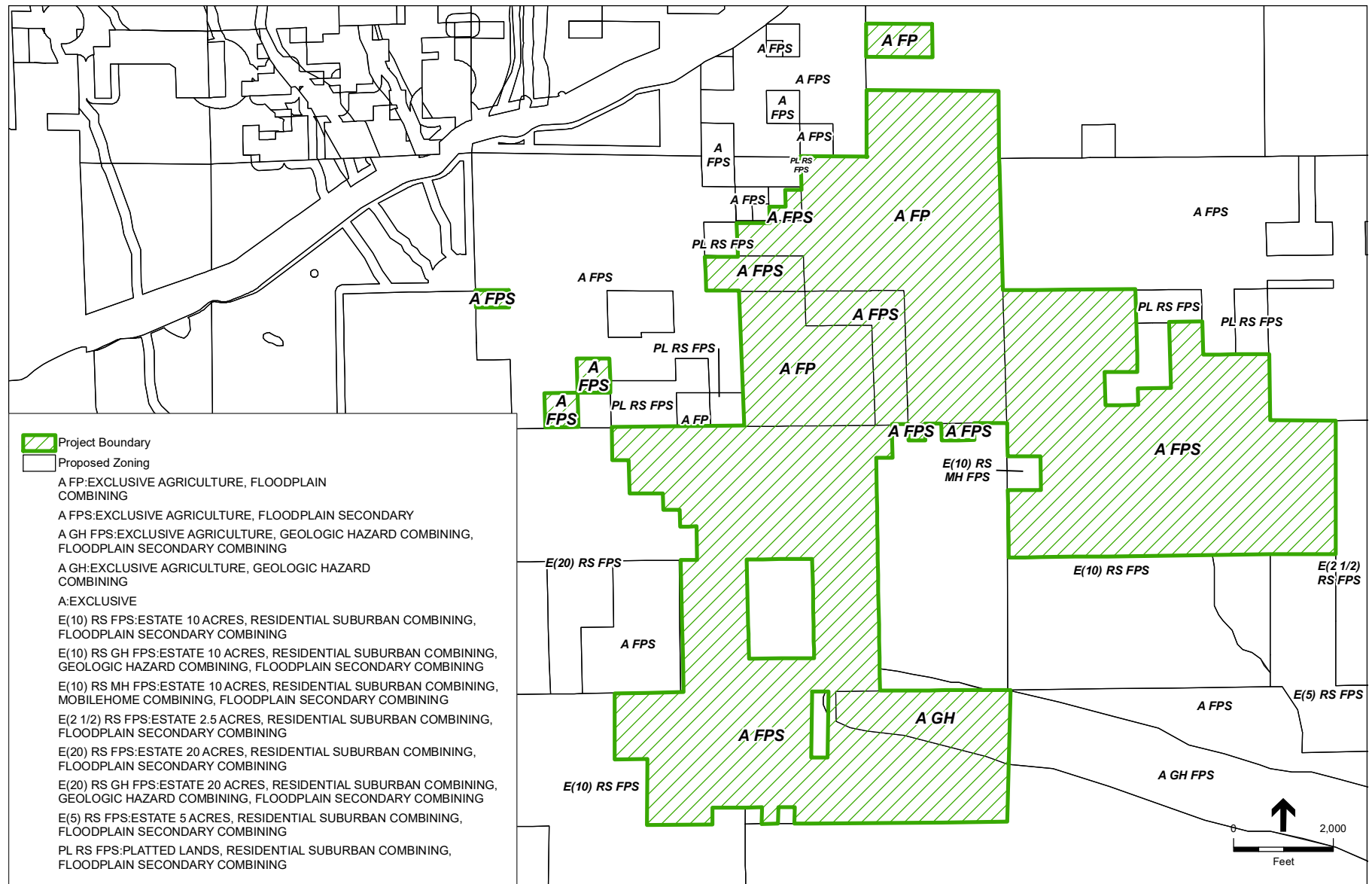


FIGURE 3-8: PROPOSED ZONING CLASSIFICATIONS



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT

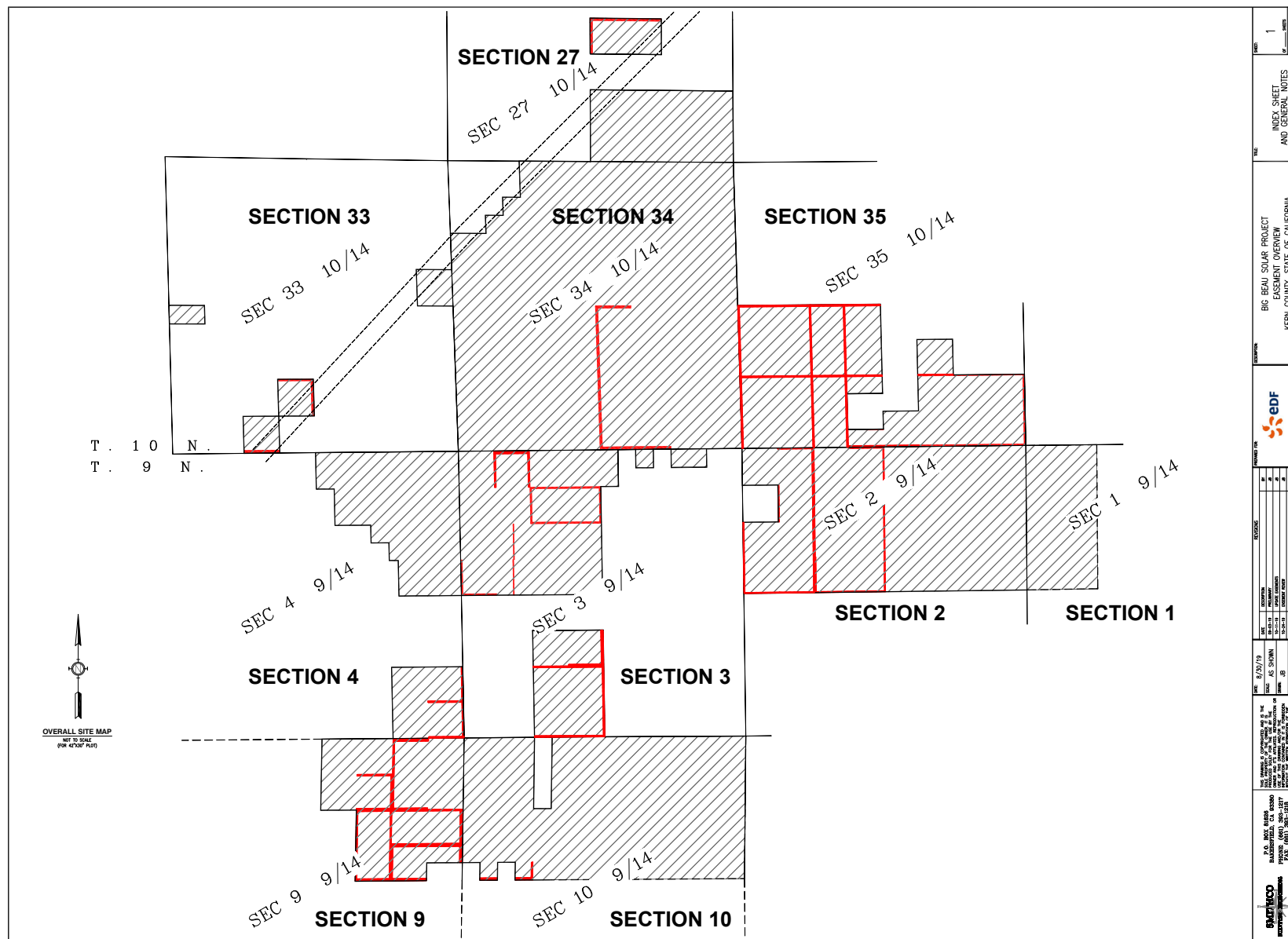


FIGURE 3-9A: PUBLIC ACCESS EASEMENT VACATIONS



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT

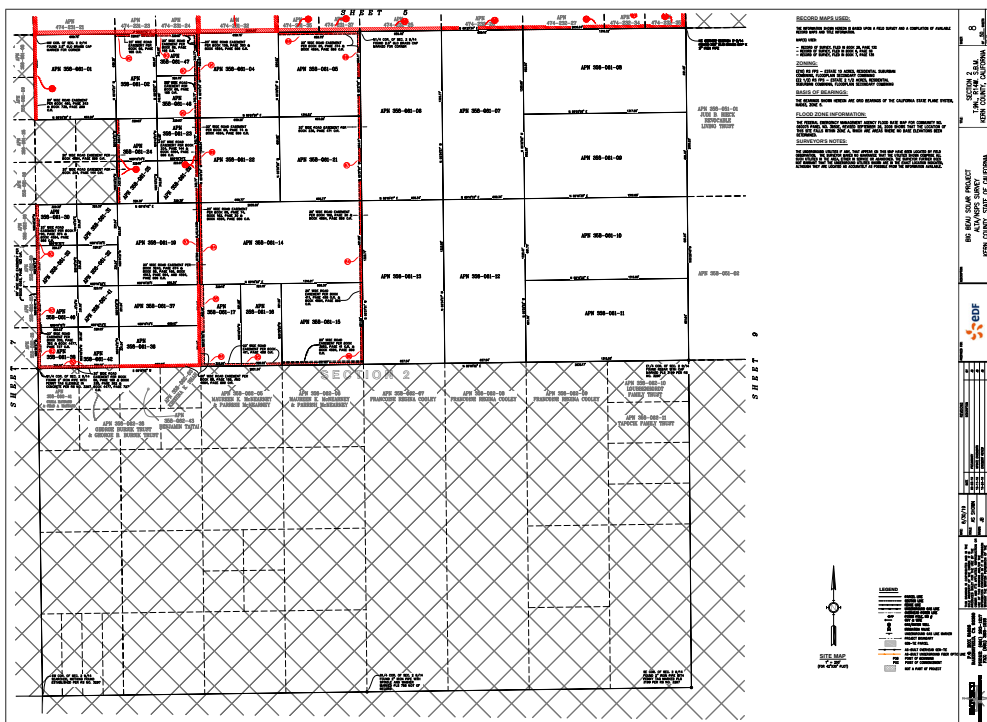
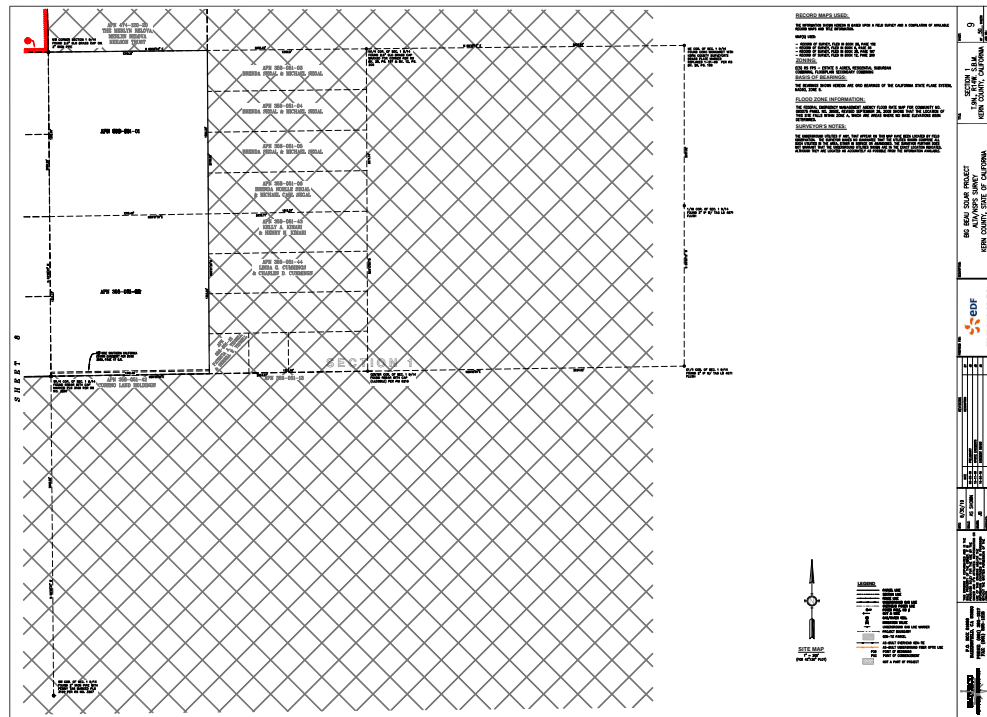
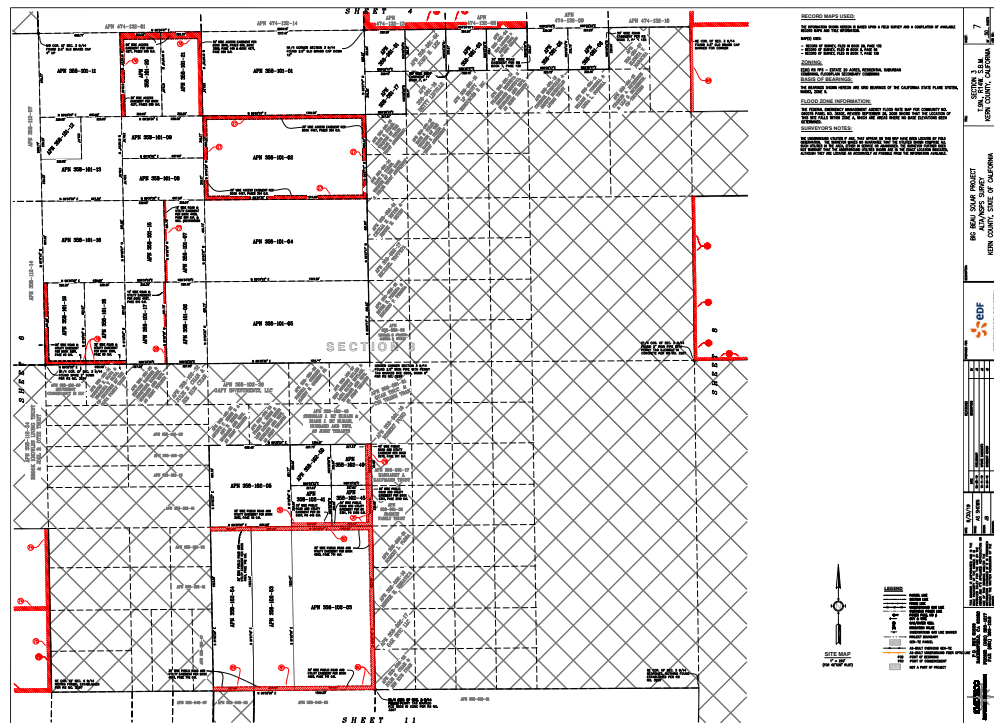


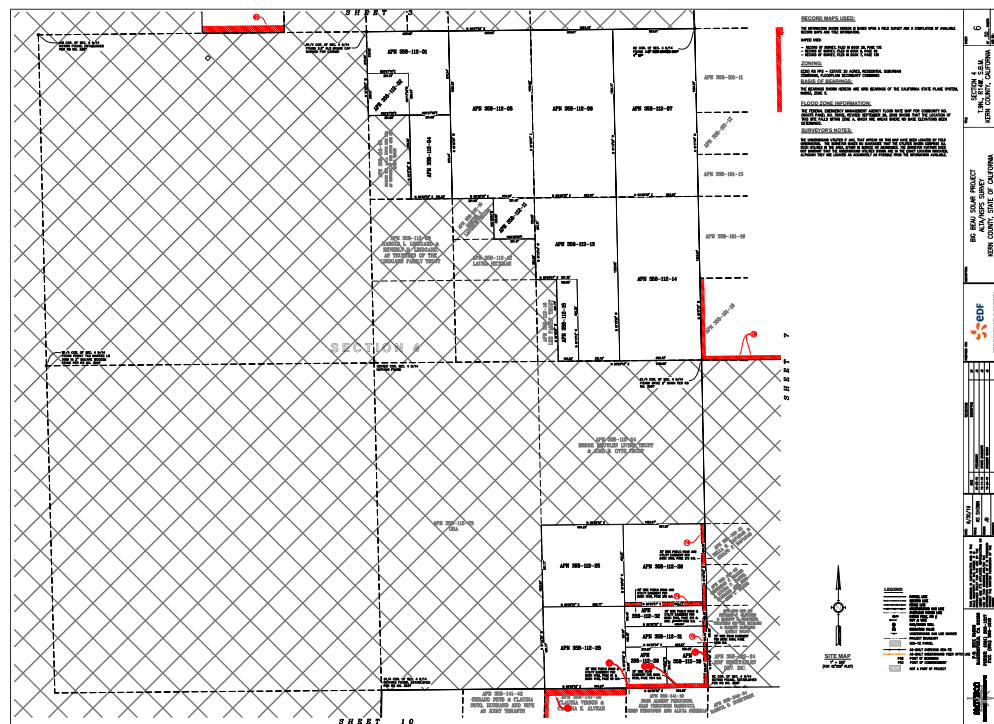
FIGURE 3-9B: PUBLIC ACCESS EASEMENT VACATIONS



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT



SECTION 3

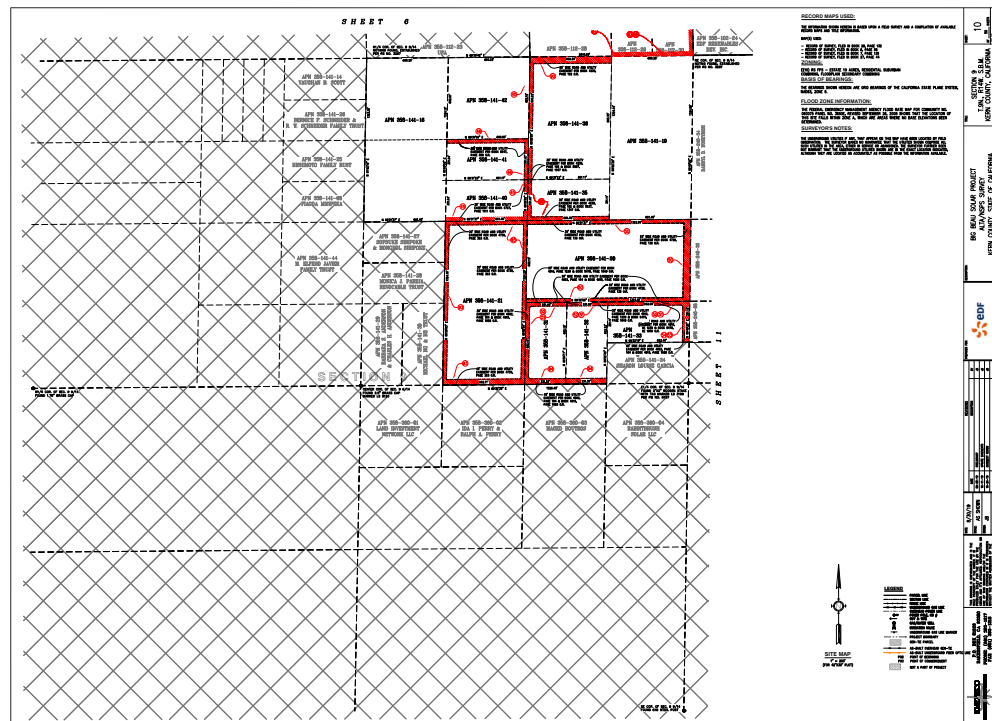


SECTION 4

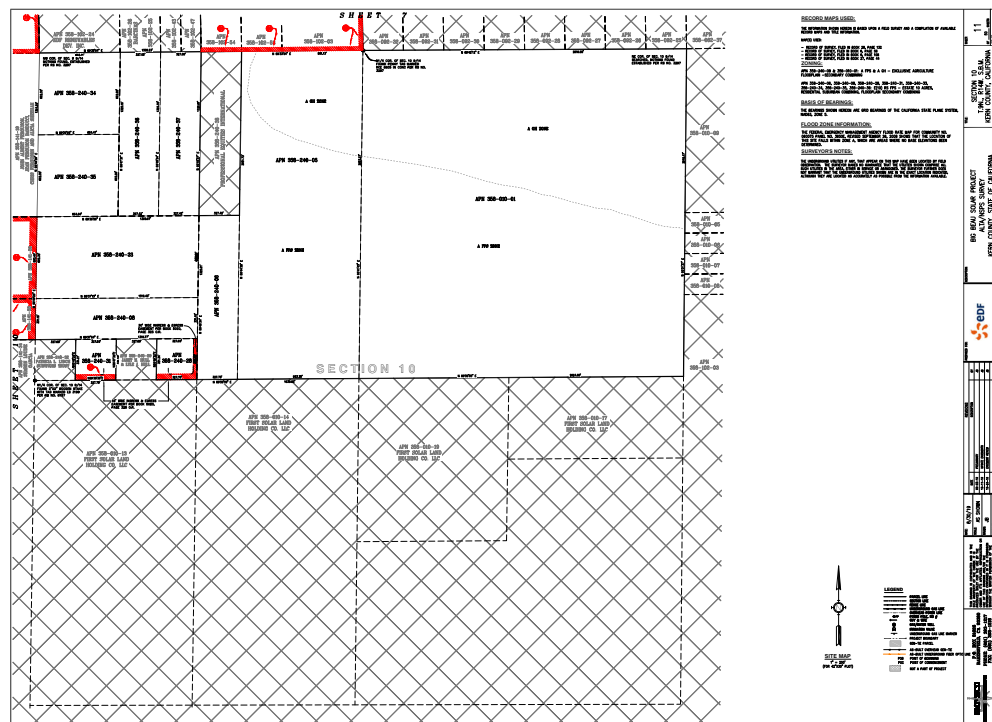
FIGURE 3-9C: PUBLIC ACCESS EASEMENT VACATIONS



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT



SECTION 9

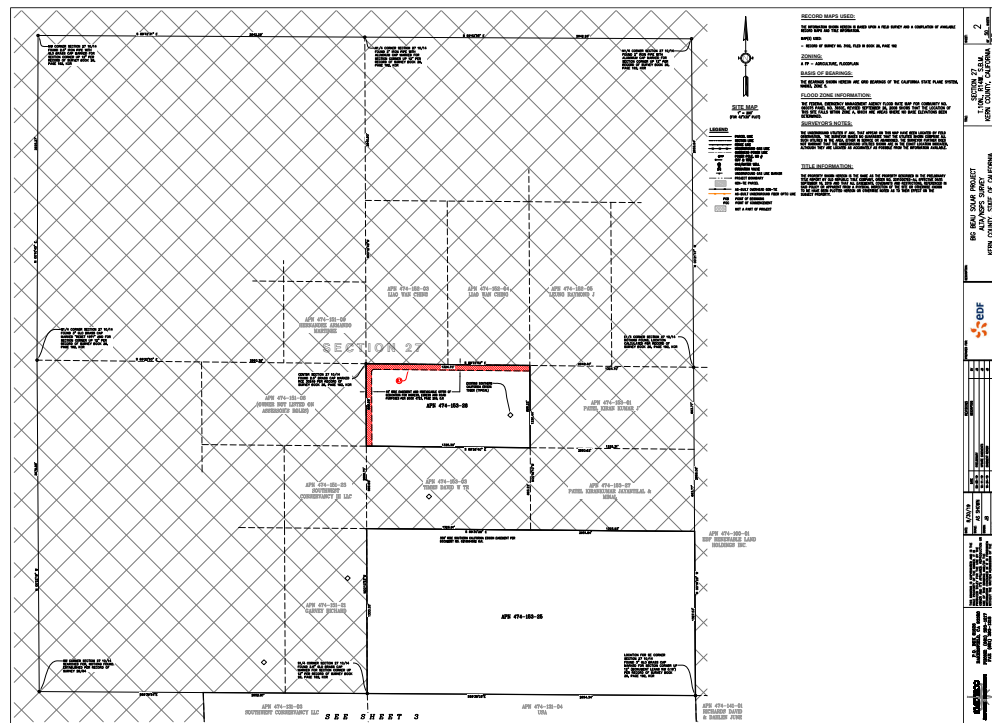


SECTION 10

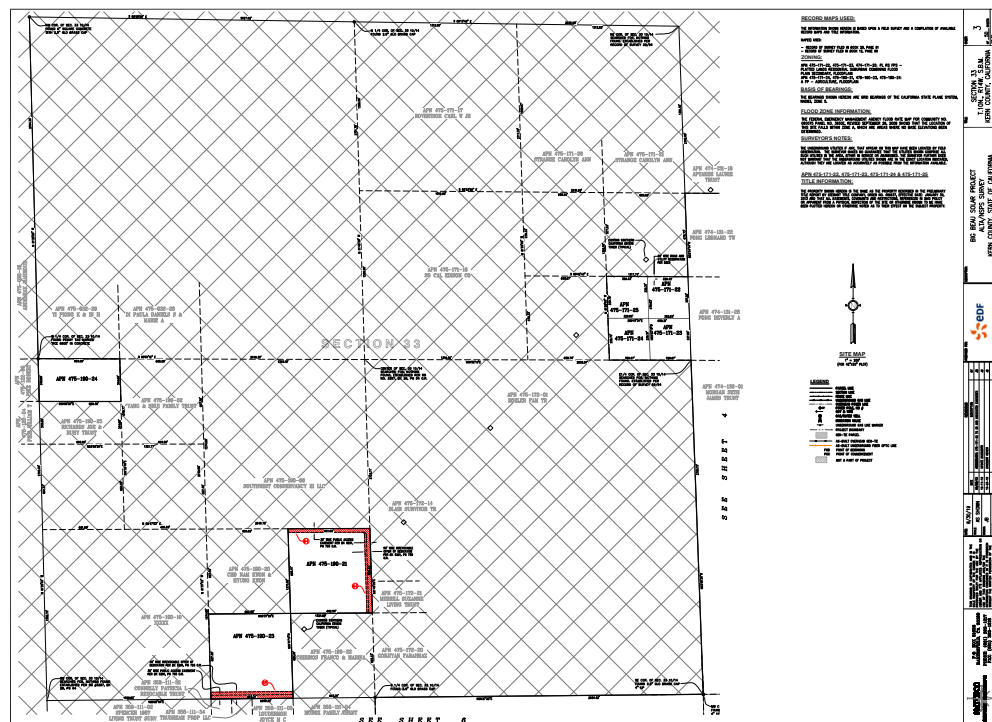
FIGURE 3-9D: PUBLIC ACCESS EASEMENT VACATIONS



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT



SECTION 27

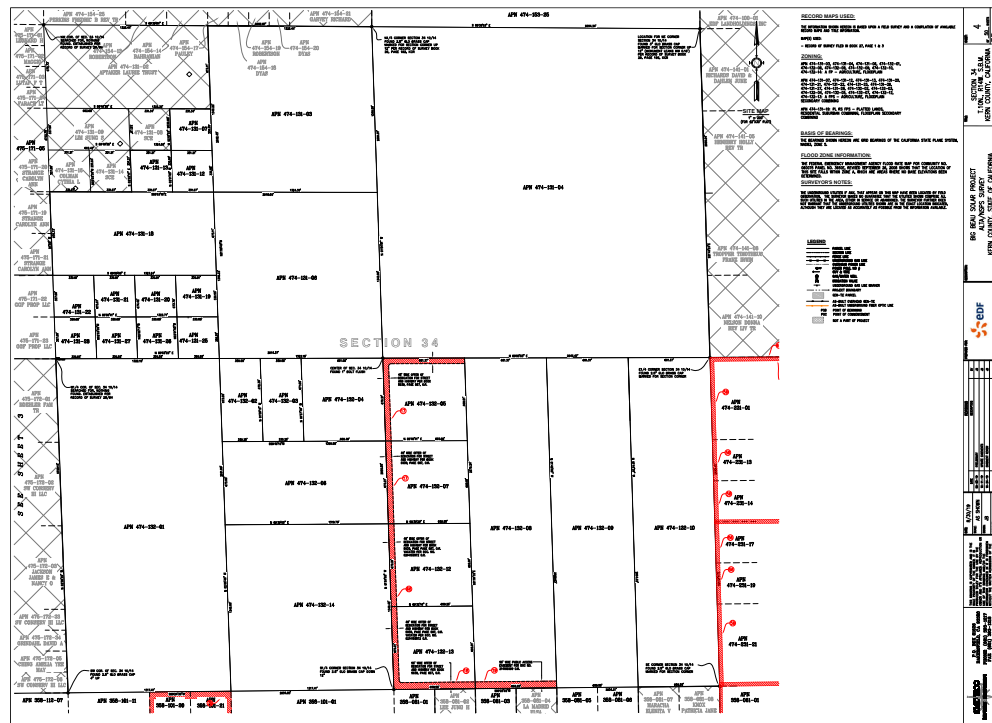


SECTION 33

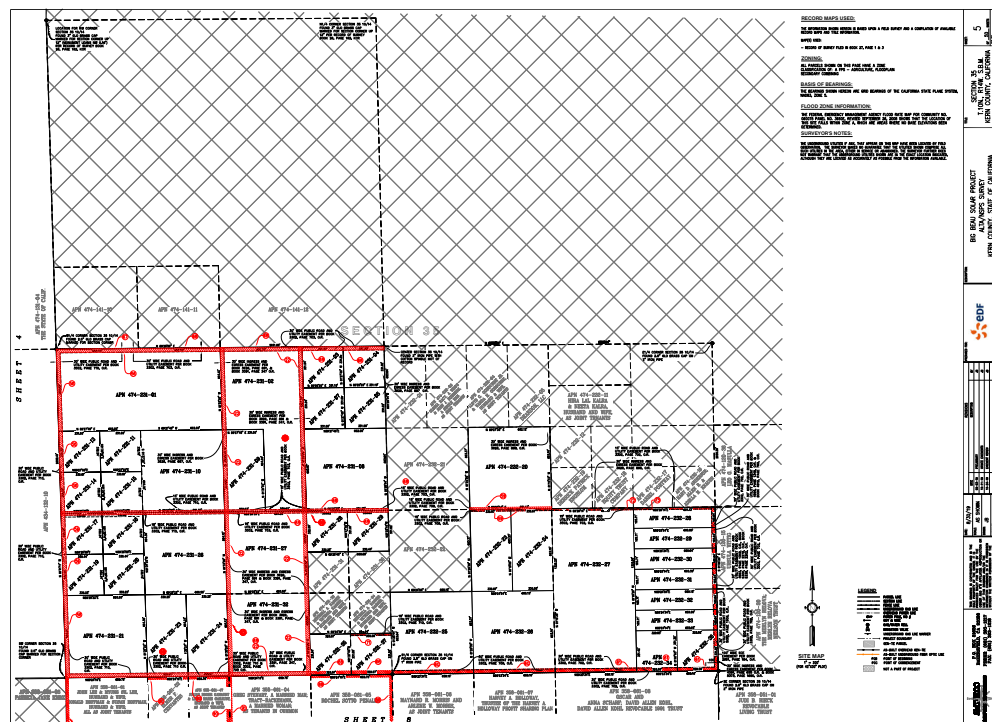
FIGURE 3-9E: PUBLIC ACCESS EASEMENT VACATIONS



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT



SECTION 34



SECTION 35

FIGURE 3-9F: PUBLIC ACCESS EASEMENT VACATIONS



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT

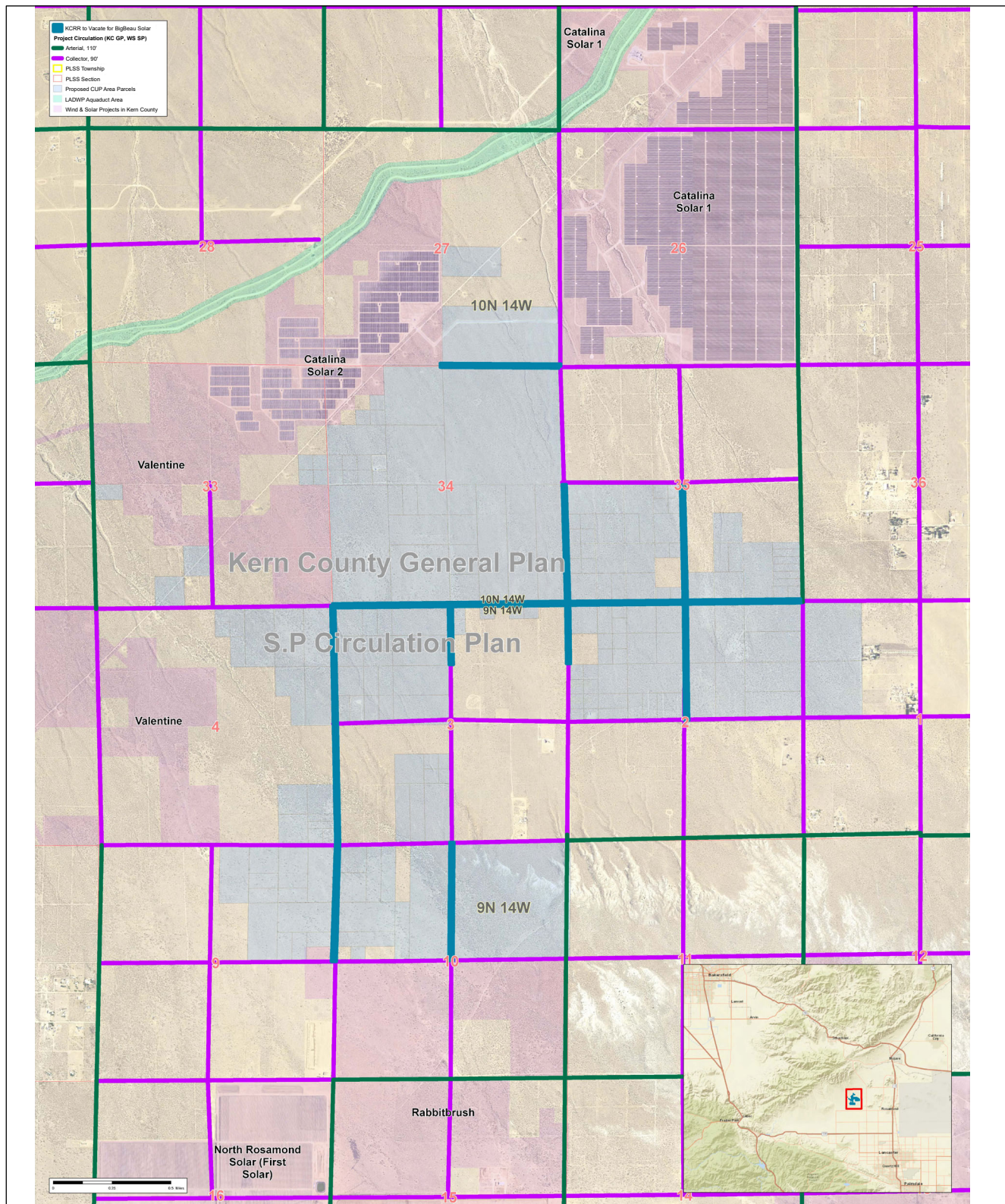


FIGURE 3-10: CIRCULATION ELEMENT ROAD RESERVATION REMOVAL

The Section line between Section 34, T10N, R14W and Section 3, T9N, R14W;

The north half of the north half of the north-south mid-section line of Section 3, T9N, R14W;

The north half of the of the north-south mid-section line of Section 10, T9N, R14W;

The south half of the Section line between Section 34, T10N, R14W and Section 35, T10N, R14W;

The north half of the Section line between Section 3, T9N, R14W and Section 2, T9N, R14W;

The Section line between Section 35, T10N, R14W and Section 2, T9N, R14W;

The south half of the north-south mid-section line Section 35, T10N, R14W;

The north half of the north-south mid-section line of Section 2, T9N, R14W

The proposed project requests the following changes to the zoning classifications in the zoning code:

Zone Change Case 13, Map 215 (Zone Change from PLS RS FPS to A FPS) - approximately 66 acres;

Zone Change Case 44, Map 232 (Zone Change from E (10) RS FPS to A FPS) - approximately 456.9 acres;

Zone Change Case 44, Map 232 (Zone Change from E (10) RS GH FPS to A GH FPS) - approximately 2.7 acres;

Zone Change Case 44, Map 232 (Zone Change from E (10) RS MH FPS to A FPS) - approximately 10.1 acres;

Zone Change Case 44, Map 232 (Zone Change from E (2 ½) RS FPS to A FPS) - approximately 110.9 acres;

Zone Change Case 44, Map 232 (Zone Change from E (20) RS FPS to A FPS) - approximately 630.8 acres;

Zone Change Case 44, Map 232 (Zone Change from E (20) RS GH FPS to A GH FPS) - approximately 9.6 acres;

Zone Change Case 44, Map 232 (Zone Change from E (5) RS FPS to A FPS) - approximately 80.6 acres.

The proposed project requests six CUPs to allow for the following:

Conditional Use Permits to allow for the construction and operation of 128 MW photovoltaic electrical generating facility with up to 60 MW of BESS (Section 19.12.030.G) in an A District;

Conditional Use Permits to allow for the operation of a concrete batch plant (Section 19.12.030.G) in an A District; and

Conditional Use Permit to allow for the construction and operation of a microwave tower (Section 19.12.030.F) in an A District.

Figure 3-2, *Project Site Boundary and Site Plan*, shows the boundaries of the proposed project. With the requested zone change, the entirety of the project would be zoned A FP (Exclusive Agriculture, Floodplain Combining), A FPS (Exclusive Agriculture, Floodplain Secondary Combining, and A GH FPS (Exclusive Agriculture, Geologic Hazard Combining, Floodplain Secondary Combining). Therefore, pursuant to Section 19.12.030.G and Section 19.12.030.F, CUPs are required to allow for the construction and operation of the PV solar facility under this zoning.

As shown in **Table 3-2, Project Assessor Parcel Numbers**, the proposed solar facility consists of 196 parcels. The facility would be designed to produce up to 128 MW of solar power at the point of interconnection to the transmission grid and would also include an up to 60 MW BESS. The project would have the following options for interconnection:

Gen-tie Option 1 - The proposed project's preferred gen-tie line (Gen-tie Option 1) would exit the project boundary heading northwest approximately 2 miles where it would connect into the existing substation at the Valentine Solar Project. From there the transmission would utilize Valentine's existing built facility to connect on to the AVTL. The Valentine gen-tie route, Catalina Solar and Pacific Wind gen-tie lines and connection into the SCE Whirlwind Substation were previously analyzed, approved via certified EIR and built accordingly. Other potential alternative routes for a portion of Gen-tie Option 1 are under consideration and are shown as Options 1.1, 1.2, and 1.3, as shown in Figure 3-3.

Gen-tie Option 2 - Gen-tie Option 2 would exit the northern boundary of the project heading northeast approximately 2 miles where it would connect into the existing substation at the Catalina Solar project. The Catalina Solar and the Pacific Wind Energy Project's gen-tie line and connection to the SCE Whirlwind Substation were previously analyzed, approved via a certified EIR, and built accordingly.

Gen-tie Option 3 - Gen-tie Option 3 would exit the western boundary of the project heading west 0.3 mile to SCE's TRTP and then southwest approximately 2.5 miles adjacent to the TRTP, then west 3.5 miles where it would connect into the existing Rose Meadow Substation. Additionally, a potential alternative route for a portion of Gen-tie Option 3 is under consideration and is shown as Option 3.1 in Figure 3-3.

Gen-tie Option 4 - Gen-tie Option 4 would be an extension of Gen-tie Option 1, and instead of connecting to the Valentine Substation, it would continue north of the Valentine Substation, tapping into the existing 220 kV Antelope Valley Transmission Line. Also, one potential alternative route to Gen-tie Option 4 is under consideration and is shown as Option 4.1 in Figure 3-3. Options 4 and 4.1 were previously analyzed as part of the Valentine Solar Project, as approved via a certified EIR. Gen-tie routes would require crossings of the LADWP aqueduct(s) and all crossings would adhere to LADWP standards.

The combined project facilities would include the following components:

Installation of up to 128-MW of solar PV modules, mounted either on a galvanized metal fixed-tilt or single-axis tracking system. The mounting systems for the modules would be mounted on steel support posts that would be pile driven into the ground;

Installation of Battery Energy Storage Systems (BESS) and accessories that would provide storage capacity for up to 60 MW of energy for the electrical grid;

A temporary concrete batch plant;

A collector substation including circuit breakers, disconnect switches, metering protection equipment, and main step-up transformer(s);

Potential upgrades to the existing Rose Meadow Substation and/or SCE Whirlwind Substation and installation of new circuits, lines, switches, utility poles, etc.;

An Operations & Maintenance (O&M) facility to maintain the facilities;

Overhead and underground collection systems throughout the solar facilities (the collection systems would be aggregated at multiple circuit breakers or medium-voltage switchgear positions within the project facilities, leading to the collector substation);

A 90-foot microwave/ communication tower;

34.5 kV to 230 kV step-up conversion station and/or kV gen-tie line to connect to the Valentine Solar, Catalina Solar Soleil, or Rose Meadow Substation(s) and ultimately the SCE Whirlwind Substation;

Telecommunication equipment, including underground and overhead fiber optics, and meteorological data collection systems or supervisory control and data acquisition (SCADA);

Meteorological (Met) station;

Onsite access roads; and

Perimeter security fencing and nighttime directional lighting.

3.7 Project Characteristics

3.7.1 Solar PV Panels

The proposed project would consist of PV panels arranged in a grid-pattern over the project site. The proposed project would include installation of PV panels that would be mounted on steel support posts that would be pile driven into the ground and connected to inverters. The PV panels would be made of a thin film material or polycrystalline silicon material covering the glass panes, which would be dark in color, highly absorptive, and have minimum reflectivity. The PV panels would be manufactured at an off-site location and transported to the project site for installation.

Each PV panel would be attached to embedded piers using a support structure. Panel layout and spacing is typically optimized to balance energy production versus peak capacity, and depends on the sun angles and shading due to the surrounding horizon of the site. If a tracking system is used, the panels would typically be mounted with the longer side oriented east to west across the tracker system's north-south axis. Individual arrays of panels would be combined to generate the total plant capacity.

3.7.2 Solar Trackers

The project's PV panels would be provided on either a single-axis tracker system or a fixed-mount array system. If using single-axis trackers, the PV panel rows would be oriented in the north-south direction. Single-axis tracking systems would employ a motor mechanism that would allow the arrays to track the path of the sun (from east to west) throughout the day. In the morning, the panels would face the east. Throughout the day, the panels would slowly move to the upright position at noon and on to the west at sundown. The panels would reset to the east in the evening or early morning to receive sunlight at sunrise. The exact tracker manufacturer and model would be determined in the final design. If the fixed tilt racking system is used, the PV panels would be in a fixed tilt position that allows for the most sunlight specific to the geography of the project site. Fixed-tilt structures, would be constructed in east/west rows with the PV panels mounted via angled brackets on top, facing south. The fixed-tilt structures would be supported by vertical posts driven in the ground. The fixed-tilt PV panels would be positioned to receive optimal solar energy over the course of a year, tilted between 15 to 30 degrees. As a fixed-tilt system, the PV panel would not track the path of the sun.

Depending on the type of technology (modules) used, the panels would measure between 4 and 7 feet in length, and the total height of the panel system measured from ground surface would be at most 18 above grade.

3.7.3 Gen-tie and Electrical Collection System

The proposed project includes several options for gen-tie routes as described above, although only one route would be constructed. The selected gen-tie would be constructed within a 150-foot-wide corridor and would consist of the utility poles, cabling, trenches, and a corresponding dirt maintenance road. Utility trench elements would be incorporated into the shoulder of the roads. The utility trenches would not add to the footprint of the gen-tie maintenance road. All utility poles associated with gen-tie would be erected inside the limits of the corridor.

Power generated on the project site would be collected at an onsite substation and converted from 34.5 kV to 220 kV of power for transmission in an overhead or underground line into the SCE transmission system and interconnection location. The project substation would transmit electricity through the existing Rose Meadow Substation and join via a ring bus assembly with other projects for ultimate delivery of electrical power and communications into the SCE Whirlwind Substation.

The transmission poles would accommodate the underground feeder splice lines to the overhead lines and would range in height but be no taller than 160 feet. The likely materials for the poles would be wood, metal, and/or spun concrete. These overhead lines would be carried via new and existing electrical poles to the Valentine Substation, the Catalina Solar Soleil substation, or the Rose Meadow Substation. Proposed underground transmission lines (if necessary) and fiber optic lines would be collocated with roads.

The project power generation would be fed to the project substation at 34.5-kV voltage of the power collection system. Underground collection cables would be installed in conjunction with roads and panel arrays within the project site, connecting each solar panel to a feeder circuit; each feeder circuit would in turn be connected to the substations. Overhead circuits up to 50 feet could be used to avoid environmentally sensitive areas or other constraints that are inherent to the project site. The different solar panel circuits would gather at the substations (or switchyard) and would then be sent to the overhead electricity lines leading to a grid interconnection point.

3.7.4 Battery Storage

Battery Energy Storage Systems (BESS) plays an increasingly important role in renewable energy and helps to create a more flexible and reliable grid system. Energy storage can smooth electricity prices through arbitrage or energy shifting, manage evening energy ramps, mitigate the risk of curtailment, provide black start capability, provide backup power, and more.

The proposed project would include facilities with the ability to store up to 60 MW of energy within the project site. The storage component of the project would likely consist of containers housing batteries connected in strings and mounted on racks. The container would likely include a transformer, monitoring equipment, and lighting and cooling equipment. However, some accessory storage dedicated equipment (e.g., inverters, auxiliary transformer to control the HVAC system) may be adjacent to the container instead of located within the container. The proposed project would utilize up to 90 containers (depending on container dimensions). Each container would be up to 80 feet long by 15 feet wide and 15 feet tall.

There are three different locations and methods of storage proposed for battery storage, these include: (1) all battery storage containers consolidated within the project substation area; (2) battery storage equipment distributed throughout the project's solar arrays by co-locating a single storage container with each of the project's block inverters with the inverter housed in or near the same container; or (3) battery storage equipment collocated with the O&M facility. Method 1, if fully employed, would require approximately 5 acres within the project substation area to house the battery storage containers. Using Method 2, the battery storage containers would contain batteries only and the inverters would remain central to the solar array blocks. If batteries are co-located with PV arrays and are DC coupled, they would share the PV inverters and transformers and have their own DC/DC converter that would either be on its own foundation, on the same skid as the inverters, or in the container with the batteries, which is dependent on the design. If the batteries are co-located with PV arrays and are AC coupled, then they would have their own inverters on their own skid. Method 3, if fully employed, would require approximately 5 acres within the project O&M facility yard to house the battery storage containers.

The final configuration could be different with, for instance, containers including only inverters, and other containers including only batteries. The project design includes shielded and motion-activated lighting and safety features within each container. The containers are equipped with a door on each end and include fire detection and fire suppression systems. Cables and cooling pipes would pass through the container floor. The container would have unobtrusive external painting that would blend in with the natural terrain and landscape. It would be classified for a lifetime of more than 20 years, according to the Category C3 H metal galvanization standard. The containers would be equipped with insulation panels on the walls and roof. The thermal regulation system of the power conversion system and battery containers would be managed through a combination of forced-air ventilation, individual battery module fans, and HVAC units to maintain the battery cells and other components in their optimal operating range (20–25 degrees Celsius). The thermal regulation system would be designed to optimize the temperature uniformity among batteries and to limit the auxiliary power consumption. All data associated with thermal regulation (individual module temperatures, internal container temperature, etc.) would be communicated to the control system.

3.7.5 Substation

The proposed project would include construction of one substation facility in one of multiple potential locations within the project boundaries or on one of three identified parcels off site. The substation that would collect the power generated by the PV solar system blocks, transport the power via the underground/overhead power collection system, and then convert the power for transmission in an overhead 220-kV line to the Valentine Solar, Catalina Solar Soleil, or Rose Meadow Substation(s) and ultimately the SCE Whirlwind Substation.

Equipment at the project substation would include transformers, bus work, switches, breakers, and all associated equipment required to be compliant with utility grade interconnection services. The substation facilities would house the power generation control and relaying equipment, station batteries, Supervisory Control and Data Acquisition System (SCADA) and communication systems, and potentially housing with radio or microwave communication mounted on a transmission tower up to 90 feet tall. The project substation would be remotely operated and periodically maintained but would not be permanently staffed. The substation site would be cleared, graded, and graveled. A security fence would be installed around the perimeter for safety and security purposes. The fence would consist of an up to 6-foot chain-link fence with up to three strands of barbed wire for a total maximum height of 8 feet. For safety purposes this fence would not be adapted for wildlife movement. Construction and operations of the project substation would affect

approximately 6 acres. The battery storage facilities may also be co-located within or adjacent to the substation yard.

In addition to the onsite substation, improvements at the Rose Meadow Substation and/or other substations may include bus work, breakers, switches, and other related works to accept the power and communications from the proposed project to the Rose Meadow Substation for final delivery to the SCE Whirlwind Substations meters and other ancillary equipment requirements for both Rose Meadow and SCE Whirlwind substations would be performed in the existing footprints of the substations.

3.7.6 Operation and Maintenance Facilities

The proposed project includes an O&M facility that would be located within the project site. Likely locations for the facility are shown on **Figure 3-2, Project Site Boundary and Site Plan**, but the final location could occur anywhere within the CUP area. The O&M facility would include a building and storage yard that would be constructed as a base for the ongoing operations and maintenance of the proposed project. The building would be approximately 4,800 square feet, with an additional 38,400-square-foot yard or cover area to support the BESS yard. The permanent O&M facility site and battery storage yard would be up to 5 acres within a parcel. The O&M building would be constructed to house the facility electronic controls and communications systems; provide storage for tools, maintenance supplies, and spare parts; and provide onsite office, kitchen, and bathroom facilities for operations staff.

The O&M facility would include approved hazardous waste containment for oils and fuels, as required. Other hazardous chemicals that may be employed on site may include cleaning agents for the O&M building and other such chemicals that would be standard at a commercial site. Typical O&M activities that would occur during operation include but are not limited to liaison and remote monitoring; administration and reporting; semi-annual and annual services; remote operations of inverters; site security and management; additional communication protocol; repair and maintenance of solar facilities, battery facilities, substations, electrical transmission lines, and other project facilities; and periodic panel washing.

Operation of the project could require up to 8 to 12 full-time and/or part-time staff at the O&M facility. The O&M site would provide parking space for employees, visitors, and equipment. The access roads to the facility would be constructed of compacted earthen or gravel materials that are pervious. Roads, driveways, and parking lot entrances would be constructed in accordance with Kern County improvement standards. Parking spaces and walkways would be constructed in conformance with all California Accessibility Regulations.

3.7.7 Onsite Meteorological Station

The project would include one on-site solar meteorological station located near the O&M building which would consist of solar energy (irradiance) meters, as well as an air temperature sensor and wind anemometer. This equipment, specifically the wind anemometer, would have an estimated height of approximately 12 feet. The precise location of the meteorological station would be determined during detailed design engineering. Power for the meteorological station would be provided by the plant auxiliary power system or a dedicated PV module with a small battery.

3.7.8 Site Access and Security

As shown in **Figure 3-11, *Project Access Routes***, the project site can be accessed from various separate routes. Primary access to the project from the regional transportation system would be gained by exiting SR-14 on to Rosamond Boulevard. SR-14 is 9 miles to the east of the project area. West on Rosamond Boulevard, north on 140th Street West, and east on either Avenue of the Stars or Hamilton Road are the proposed primary access routes. Other routes for project access include the existing project access road for the Catalina Solar project, the intersection of Avenue of the Stars and 130th Street West, and Favorito Avenue east of 110th Street West.

While existing roads would be utilized to the greatest extent possible, potential improvements to unpaved roads (such as evening out the road topography or compacting the dirt) may be required off site to serve as access roads from the existing road network to the project. As depicted in **Figure 3-2, *Project Site Boundary and Site Plan***, new roads within the project site would be installed between the southern array area and the northern array area of the project. A 20-foot-wide minimum road is required around the perimeter of the solar arrays for the fire department and emergency vehicles. Additional internal maintenance roads would be located throughout the project area. Spacing between each row would depend on final panel type, orientation, and any County regulations. Internal access roads would be up to 20 feet wide and would be cleared and compacted for equipment and emergency vehicle travel and access to the solar blocks. These project site access roads would remain in place for ongoing operations and maintenance activities after construction is completed.

Final service road alignments would depend on the final placement of the solar panels and on the results of the environmental report documenting the results of field investigations, including topography and any other site-specific details to be incorporated into the final design. Where access roads are required to cross streambed areas under the jurisdiction of the California Department of Fish and Wildlife, the project applicant would install appropriate crossings in order to minimize impacts on these jurisdictional areas and comply with all California Fish and Game Code requirements, including authorization through a Streambed Alteration Agreement as appropriate. To minimize impacts on jurisdictional streambeds, the proposed project may consider the use of overhead electrical and communication lines to span jurisdictional blue-line streams.

Security fencing would be installed in accordance with Kern County zoning requirements. Based on current Kern County ordinances, the project applicant has the option to fence either the exterior northern and southern boundaries of the entire project site, each solar panel row independently, or a grouping of solar blocks. At this time, it has not been determined which of these options would be used. Up to an 8-foot security fence would be installed that would consist of an up to 6-foot chain-link fence with up to three strands of barbed wire for a total maximum height of 8 feet. Fencing around the panel blocks would be adapted prior to the commencement of operations to allow for the movement of wildlife. All fence installation requirements would be evaluated, and the best-fit scenario would be incorporated within the project site based upon Kern County's final determination.

Security services would be provided during construction, and any additional security would be provided on an as-needed basis. The security personnel would be responsible for controlling egress and ingress, enforcing safety requirements, and ensuring compliance with all other policies for control of the project site during the construction phase. After construction, these duties would become the responsibility of the operations and maintenance provider.



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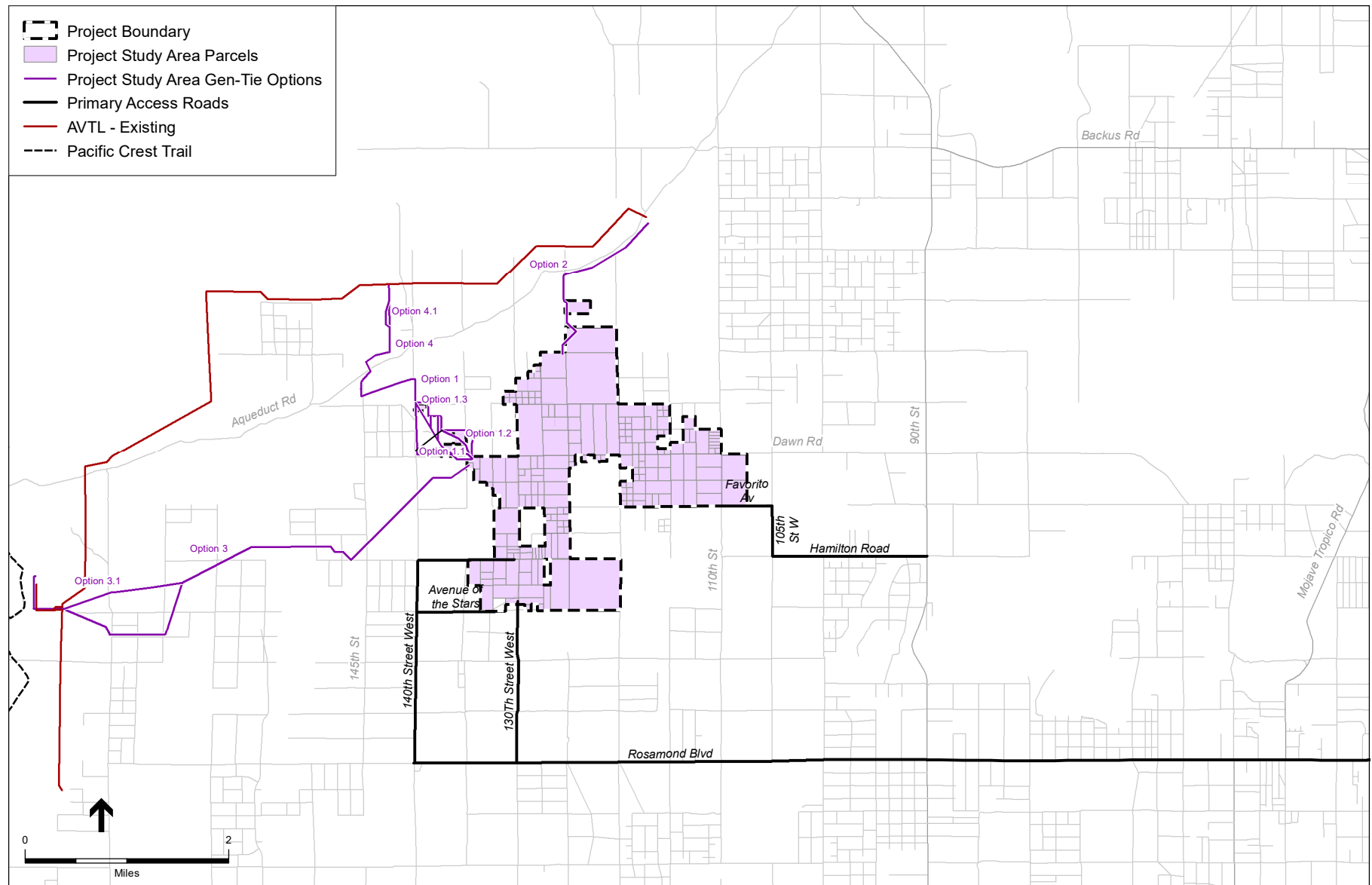


FIGURE 3-11: PROJECT ACCESS ROUTES

All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties in conformance with Kern County Ordinance (Chapter 19.81) - Outdoor Lighting-Dark Skies requirements. Lighting at the facility would be restricted to areas required for safety and security. Exterior lights would be hooded, and lights would be directed on site so that light or glare would be minimized. Switched lighting would be provided in areas where continuous lighting is not required for normal operation, safety, or security.

3.7.9 Supervisory Control and Data Acquisition System

The SCADA system is critical to the CAISO and SCE utility interconnection and for the proper operation and maintenance of the project; it utilizes propriety software; a fiber optic transmission system; a telephone, radio, and/or microwave communications network; and other means of communication such as radio links and phase loop communication systems. The SCADA system functions as a remote start, stop, reset, and tag-out system for facilities, thus minimizing the manpower and site diagnostic information generated from the panels. The SCADA system would also control the proposed project substation, allowing for fully centralized operation of the project to meet all CAISO and utility interconnection requirements.

3.7.10 Microwave/Radio Tower

Supporting the proposed project would be one microwave/communication tower to be located with the substation in one of various potential locations (see **Figure 3-2, Project Site Boundary and Site Plan**), consisting of up to three 6-foot- high-performance microwave dish(es) fixed to a steel monopole of up to 90 feet in height. An approximately 12-foot by 20-foot equipment shelter would also be included within a fenced area. A separate CUP would be required for the microwave tower and the shelter would have a maximum height of 10 feet.

The proposed project radio equipment would be located within the equipment shelter and would be connected to the microwave dish(es) via coaxial or fiber optic cables. If the microwave tower is located outside the project substation, fencing would consist of an up to 6- foot chain-link fence with up to three strands of barbed wire (up to 2 feet high), for a total maximum height of 8 feet.

3.7.11 Construction

The construction of the proposed project would last up to approximately 10 to 14 months. Construction would be comparable to other renewable energy projects and can be divided into the following components: (1) roads, (2) electrical and communications infrastructure, (3) PV assembly and installation, (4) substation construction, interconnection and battery storage, (5) stringing/pulling new circuit on existing infrastructure of gen-tie line, (6) electrical and communication system upgrades, (7) PV commissioning, and (8) project finalization. The various components of the proposed project would be constructed concurrently on the project site.

Schedule and Workforce

Construction would primarily occur during daylight hours, Monday through Friday, between 6:00 a.m. and 9:00 p.m., and Saturday and Sunday, between 8:00 a.m. and 9:00 p.m., as required to meet the construction schedule. Additional hours/days may be necessary to facilitate the schedule. Any construction work performed outside of the normal work schedule would be coordinated with the appropriate agencies and would conform to the Kern County Noise Ordinance (Chapter 8.36).

Construction is anticipated to commence in the fourth quarter of 2020. The onsite construction workforce is expected to peak at up to 495 individuals; however, the average daily workforce is expected to be 220 construction, supervisory, support, and construction management personnel onsite during construction. Construction employees may be able to carpool from respective population centers such as Tehachapi and Rosamond, and report to the designated construction staging yards prior to the beginning of each work day. One or more of the proposed laydown yards may be used as a parking and meeting area for the construction employees and would be reclaimed after substantial completion of the project is reached. It is anticipated that the employees would utilize Rosamond Boulevard, Tehachapi–Willow Springs Road, 140th Street West, 130th Street West, Avenue of the Stars, 105th Street West, and/or Hamilton Road as points of ingress/egress to the property and that, once onsite, they would access various sections via the existing and improved network of dirt roads. **Table 3-4, Solar PV Construction Activity, Duration and Equipment**, depicts the construction activities, duration, and equipment by phase.

TABLE 3-4: SOLAR PV CONSTRUCTION ACTIVITY, DURATION, AND EQUIPMENT*

Activity	Duration	Equipment
Phase 1: Move on	1 month	Forklifts Generator Sets Off-Highway Trucks Carts/ATVs Rollers Rubber Tired Dozers Scrapers Tractors/Loaders/Backhoes Trenchers
Phase 2: Site Preparation & Grading	4 months	Graders Off-Highway Trucks Other Construction Equipment Carts/ATVs Rollers Rubber Tired Dozers Scrapers Tractors/Loaders/Backhoes Trenchers
Phase 3: New Access Road Construction	1 month	Graders Off-Highway Trucks Other Construction Equipment Carts/ATVs Rollers Rubber Tired Dozers Scrapers

TABLE 3-4: SOLAR PV CONSTRUCTION ACTIVITY, DURATION, AND EQUIPMENT*

Activity	Duration	Equipment
Phase 4: Generation Tie Line Construction	3 months	Aerial Lifts Cranes Crawler Tractors Forklifts Generator Sets Off-Highway Trucks Carts/ATVs Tractors/Loaders/Backhoes
Phase 5: Internal Roads Construction	1 month	Graders Off-Highway Trucks Carts/ATVs Rollers Tractors/Loaders/Backhoes
Phase 6: Electrical Substation, Battery Storage & Microwave Tower Construction	2 months	Aerial Lifts Cranes Forklifts Off-Highway Trucks Carts/ATVs Tractors/Loaders/Backhoes Trenchers
Phase 7: Transmission Line Construction	1 month	Aerial Lifts Carts/ATVs Tractors/Loaders/Backhoes
Phase 8: Concrete Batch Plant	2 months	Tractors/Loaders/Backhoes
Phase 9: Solar Array Structural, Underground & Panel Installation, and O&M facility	12 months	Forklifts Generator Sets Off-Highway Trucks Carts/ATVs Rollers Skid Steers Post Drivers Tractors/Loaders/Backhoes Trenchers
* Some activities occur concurrently.		

Site Grading and Earthwork

Beginning work on the project would involve preparing the land for installation of arrays, energy storage facility, related infrastructure, access driveways, and temporary construction staging areas. Prior to initial construction mobilization, preconstruction surveys would be performed and sediment and erosion controls

would be installed in accordance with an approved Storm Water Pollution Prevention Plan (SWPPP). Stabilized construction entrances and exits would be installed at driveways to mitigate tracking of sediment onto adjacent public roadways.

Construction activities would be expected to include mowing, excavation, and grading of the project site. Site preparation and construction would occur in accordance with all federal, state, and County zoning code requirements. Noise-generating construction activities would be limited to the construction hours noted above. All stationary equipment and machines with the potential to generate a significant increase in noise or vibration levels would be located away from noise receptors to the extent feasible. The contractor would conduct construction activities in such a manner that the maximum noise levels at the affected buildings would not exceed established noise levels.

All applicable local, state, and federal requirements and best management practices (BMPs) would be incorporated into the construction activities for the project site. The construction contractor would be required to incorporate BMPs consistent with the County zoning ordinance and with guidelines provided in the California Stormwater Quality Association's Construction Best Management Practice Handbook, including the preparation of a SWPPP and a soil erosion and sedimentation control plan to reduce potential impacts related to construction of the proposed project. Prior to initial construction mobilization, pre-construction surveys would be performed and sediment and erosion controls would be installed in accordance with the approved SWPPP. Stabilized construction entrances and exits would be installed at driveways to reduce tracking of sediment onto adjacent public roadways.

Site preparation would be consistent with County BMPs and Eastern Kern Air Pollution Control District rules for dust control. Site preparation would involve the removal and proper disposal of existing vegetation and debris that would unduly interfere with project construction or the health and safety of onsite personnel. Dust-minimizing techniques would be employed, such as maintaining natural vegetation where possible, using mow-and-roll vegetation clearance strategy, placement of wind control fencing, application of water, and application of dust suppressants. Conventional grading would be performed throughout the project site but minimized to the maximum extent possible to reduce unnecessary soil movement that may result in dust. Earthworks scrapers, excavators, dozers, water trucks, paddlewheels, haul vehicles, and graders may all be used to perform grading. Land-leveling equipment, such as a smooth steel drum roller, would be used to even the surface of the ground and to compact the upper layer of soil to a value recommended by a geotechnical engineer for structural support. Access roads may be additionally compacted to 90 percent or greater, as required, to support construction and emergency vehicles. Certain access roads may also require the use of aggregate or decomposed granite to meet emergency access requirements. Soil movement from grading would be balanced on the site, and no import or export of soils would occur.

Trenching would be required for placement of underground electrical and communication lines, and may include the use of trenchers, backhoes, excavators, haul vehicles, compaction equipment, and water trucks. After preparation of the site, the pads for structures, equipment enclosures, and equipment vaults would be prepared per geotechnical engineer recommendations. The substation area would have a grounding grid installed and would be covered with aggregate surfacing for safe operation. Collection and transmission structures from the substation and switchyard to the existing transmission line would require drilling for foundation support, and the soils removed would be spread across the project site.

Solar Array Assembly

Erection of the solar arrays would include support structures and associated electrical equipment and cabling. First, steel piles would be driven into the soil using pneumatic techniques, similar to a hydraulic rock hammer attachment on the boom of a rubber-tired backhoe excavator. The piles, or “standards,” are typically spaced approximately 20 feet apart and installed to a revealed height of approximately 4 to 5 feet above grade. Once the standards have been installed, the horizontal cross-members would be placed and secured. The arrays would consist of either a motorized single-axis tracking system or a fixed-mount array system. For a single-axis tracking system, the trackers and their associated motors would be mounted to the horizontal cross-members. For a fixed-mount system, a galvanized metal racking system, which holds the PV modules in the correct position for maximum capture of solar insolation, would be field assembled and attached to the horizontal cross-members.

Concrete would be required for the footings and pads for the substation transformers and equipment and potentially for the battery storage foundations. Concrete may also be required for pile foundation support, depending on the mounting system chosen for installation. Final concrete specifications would be determined during detailed design engineering. The project is permitting the use of a temporary concrete batch plant. Alternatively, concrete may be produced on the project site and would be poured throughout the site by truck, or purchased from an off-site supplier and trucked in to the project site. During this work, there would be multiple crews working on the site with various equipment and vehicles, including special vehicles for transporting the modules and other equipment. As the solar arrays are installed, the substations and solar switchyard would be constructed and the electrical collection and communication systems would be installed. Within the solar fields, the electrical and communication wiring would be installed in underground trenches, although some of the mid-voltage collection runs and communication systems may be on overhead lines. The wiring would connect to the appropriate electrical and communication terminations and the circuits would be checked and commissioned prior to operation.

Construction Water Use

During construction of the proposed project, water would be required for common construction related purposes, including but not limited to dust suppression, soil compaction, and grading. Dust-control water may be used for ingress and egress of onsite construction vehicle equipment traffic and for the construction of the solar equipment. A sanitary water supply would not be required during construction, because restroom facilities would be provided by portable units to be serviced by licensed providers.

The overall construction water usage is anticipated to be approximately 150 acre-feet (AF) during the 10- to 14-month construction period. During construction, the water used is anticipated to be purchased from a local water purveyor and trucked to the site. Water demand during construction is expected to be the same if the project is constructed during a year with normal precipitation, a year with less-than-average precipitation, or a multiyear period of less-than-average precipitation.

The project applicant is pursuing various options for water supply, including purchasing water from a private water truck company with a facility located near the unincorporated community of Rosamond and/or from the Rosamond Community Services District.

Solid and Nonhazardous Waste

The project site would produce a small amount of solid waste from construction activities. This may include paper, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation wastes. These wastes would be segregated for recycling. Non-recyclable wastes would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill. Vegetation wastes generated by site clearing and grubbing would be chipped/mulched and spread on site or hauled offsite to an appropriate green waste facility. Waste generated by the operation of the project would likely be disposed of at the closest waste disposal site, which is the Mojave-Rosamond Landfill. This landfill is located at 400 Silver Queen Road, which is approximately 12-miles northeast of the project site. This landfill accepts most types of waste except for hazardous waste, hot ashes, liquids of any kind, and non-friable asbestos.

Hazardous Materials

The hazardous materials used for construction would be typical of most construction projects of this type. Materials would include small quantities of gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, dust palliative, herbicides, and welding materials/supplies. A hazardous materials business plan would be provided to the Kern County Environmental Health Services Division/Hazardous Materials Section. The hazardous materials business plan would include a complete list of all materials used onsite and information regarding how the materials would be transported and in what form they would be used. This information would be recorded to maintain safety and prevent possible environmental contamination or worker exposure. During project construction, safety data sheets for all applicable materials present at the site would be made readily available to onsite personnel.

Hazardous Waste

Small quantities of hazardous wastes would most likely be generated over the course of construction. These wastes may include waste paint, spent construction solvents, waste cleaners, waste oil, oily rags, waste batteries, and spent welding materials. Workers would be trained to properly identify and handle all hazardous materials. Hazardous waste would be either recycled or disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous waste shipped offsite for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler and disposed of at an approved location.

3.7.12 Operation and Maintenance

Upon completion of the construction and testing phases, the proposed project would be operated during daylight hours. As mentioned above, up to 8 to 12 full-time and/or part-time staff would be required for operation, inspection, security, maintenance, and system monitoring proposes. Effective facility operations would be ensured by the following or similar activities (list is not exclusive):

- Liaison and remote monitoring;
- Administration and reporting;
- Semi-annual and annual services;
- Remote operations of inverters;

Site security and management;

Additional communication protocol;

Repair and maintenance of solar facilities, substations, microwave tower, and other project facilities; and

Periodic (up to twice per year) panel washing

The proposed PV arrays produce electricity passively with minimal maintenance requirements. It is anticipated that panels would be washed up to two times a year, using the same well water source as the construction phase. It would likely be purchased from a local supplier using groundwater wells. This groundwater is suitable as a primary supply for panel washing, but may not be suitable for potable use.

Operations Water Use

Bottled drinking water would be provided for potable water demand. The bottled water would be supplied to the O&M facility from a commercial vendor and would not require groundwater supplied from the basin. The project applicant is pursuing various options for water supply, including purchasing water from a private water truck company with a facility located near the unincorporated community of Rosamond and/or from the Rosamond Community Services District. A water storage tank may be installed at the O&M yard to provide water supply needed for fire protection and operations. The facility would utilize a septic system for sewage treatment. The wastewater system for the project would comply with the requirements of the Kern County Environmental Health Services Department, as well as the Uniform Building Code.

The estimated non-potable water supply requirement for the O&M facility is 3.4 gallons per minute, for an annual requirement of 3.6 million gallons or 11 AF. This is based on an estimate of up to 12 full-time employees at the facility. The non-potable water supply was estimated using the Uniform Plumbing Code (2018) assuming four water closets at the O&M building. The estimated water demands for panel washing, ongoing dust control, and other miscellaneous tasks are approximately 10.8 AF per year. In total, operation of the proposed project would require 21.8 AF per year of water.

Solid and Nonhazardous Waste

The project would produce a small amount of waste associated with maintenance activities, which could include broken and rusted metal, defective or malfunctioning modules, electrical materials, empty containers, and other miscellaneous solid waste, including the typical refuse generated by workers. Most of these materials would be collected and delivered back to the manufacturer or to recyclers. Solid waste, if generated during operation, would be subject to applicable disposal methods. Shipping materials, construction waste, and other general solid wastes would be separated for recycling where possible/available. Non-recyclable waste would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill. The closest Class III municipal landfill is the Mojave Recycling and Sanitary Landfill.

Hazardous Materials

Limited amounts of hazardous materials would be stored or used on the site during operations, which may include diesel fuel, gasoline and motor oil for vehicles, mineral oil to be sealed within the transformers, and

lead acid-based and/or lithium ion batteries for emergency backup. Appropriate spill containment and cleanup kits would be maintained during operation of the project.

Hazardous Waste

The proposed project would produce a small amount of hazardous waste associated with maintenance activities, which could include broken and rusted metal, defective or malfunctioning modules, electrical materials, unused paint, solvents, cleaners, waste oil, oily rags, and batteries. Workers would be trained to properly identify and handle all hazardous wastes. Fuels and lubricants used in operations would be subject to the Spill Prevention, Containment, and Countermeasure Plan to be prepared for the proposed project.

Hazardous waste would be either recycled or disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous waste shipped offsite for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler and disposed of at an approved location.

Security and Lighting

The proposed project would be fenced by a 6-foot high chain link fence with three-strand barbed wire (8 feet total) installed around the perimeter of the facility to help prevent access by the public. Locking gates would be installed at specified points of ingress and egress. Limiting access to the project site would be necessary both to ensure the safety of the public and to protect the equipment from potential theft and vandalism. During operations, the fencing design will allow for wildlife movement as appropriate.

Vegetation is sparse with little potential for vegetative fuel buildup. Nevertheless, the project proponent would prepare a fire prevention plan for the project in compliance with applicable Kern County regulations.

The project design includes shielded and motion-activated lighting and safety features within each battery container. The containers are equipped with a door on each end and include fire detection and fire suppression systems. Cables and cooling pipes would pass through the container floor. The container would have unobtrusive external painting that would blend in with the natural terrain and landscape. The containers would be equipped with insulation panels on the walls and roof. The thermal regulation system of the power conversion system and battery containers would be managed through a combination of forced-air ventilation, individual battery module fans, and HVAC units to maintain the battery cells and other components in their optimal operating range (20–25 degrees Celsius). The thermal regulation system would be designed to optimize the temperature uniformity among batteries and to limit the auxiliary power consumption. All data associated with thermal regulation (individual module temperatures, internal container temperature, etc.) would be communicated to the control system.

The project's lighting system would provide operation and maintenance personnel with illumination for both normal and emergency conditions. 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 Kern County Zoning Ordinance Chapter 19.81- Outdoor Lighting- Dark Skies Requirements.

3.7.13 Decommissioning

The project has an anticipated operational life of up to 35 years, after which the project proponent may choose to update site technology and recommission, or to decommission the site and remove the systems

and their components. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, state, and County regulations. At the end of the project's operational term, it may be determined that the project should be decommissioned and deconstructed, or the project owner may seek an extension of its CUP. Because the PV arrays and supporting equipment sit on the surface of the land, when they are removed after the proposed project's lifetime, the land will largely unaltered from its natural state. The project proponent will work with the County to put an agreement in place that will ensure the decommissioning of the project after its productive lifetime.

It is anticipated that during project decommissioning, project structures would be removed from the ground on the project site. Aboveground equipment that would 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, transformers, electrical wiring, and equipment on the inverter pads. The substation would be removed if it is owned by the project proponent; however, if a public or private utility assumes ownership of the substation, the substation may remain onsite to be used as part of the utility service to supply other applications.

Equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment off site to be recycled or disposed of at an appropriately licensed disposal facility. Removal of the solar modules would include removing the racks on which the solar panels are attached and placing them in secure transport crates and a trailer for storage, for ultimate transportation to another facility. Once the solar panels have been removed, the racks would be disassembled and the structures supporting the racks would be removed. Site infrastructure would be removed, including the fences and the concrete pads that may support the inverters, transformers, and related equipment. The demolition debris and removed equipment may be cut or dismantled into pieces that can be safely lifted or carried with the equipment being used. The fencing and gates would be removed, and all materials would be recycled to the extent feasible. The area would be thoroughly cleaned and all debris removed. A collection and recycling program would be executed to promote recycling of project components and minimize disposal in landfills.

3.8 Entitlements Required

The anticipated approvals needed for the project include general plan amendments to the circulation element of both the Kern County General Plan and the Willow Springs Specific Plan, changes in zone classification, adoption of conditional use permits and non-summary vacations to existing public roadways within the project boundaries. Construction and operation of the proposed solar energy facility may require additional State, local, and federal entitlements; as well as discretionary and ministerial actions and approvals listed below:

3.8.1 Kern County

Consideration and certification of Final EIR.

Adoption of 15091 Findings of Fact and 15093 Findings and Statement of Overriding Considerations.

Approval of proposed Mitigation Measure Monitoring Program.

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 circulation amendments to both the Kern County General Plan and the Willow Springs Specific Plan.

Approval by the Kern County Board of Supervisors for proposed public access vacations.

Kern County grading and building permits.

Kern County encroachment permits.

California Desert Native Plants Act Permit to Harvest Native Plants (Harvest Permits).

3.8.2 State Lands Parcel

As noted above, the proposed project consists of all privately-owned land, with the exception of one 160-acre parcel owned by the California State Lands Commission. As with the rest of the project site, the Commission-owned parcel is vacant and undeveloped. Following the County's consideration of the BigBeau Solar Project, the Commission will consider the request to lease the Commission-owned parcel for the proposed project. The Commission is considered a Responsible Agency under the California Environmental Quality Act (CEQA). Pursuant to CEQA Guidelines Sections 15096 and 15381, the Commission must rely on this Environmental Impact Report (EIR) for CEQA compliance associated with its decision and must also issue its own findings regarding the project. Anticipated development on the Commission parcel would include PV panels, inverters, BESS, underground and overhead electrical lines and fiber, internal roads, safety lighting, fencing and ancillary facilities. These components are described in more detail in Section 3.6, Project Characteristics, above. Development on the Commission parcel will not include laydown yards, the substation, microwave/ communication tower, the temporary concrete batch plant or the O&M facility.

3.8.3 Other Responsible Agency Entitlements

U.S. Fish and Wildlife Service Habitat Conservation Plan (if required).

California Department of Fish and Wildlife (CDFW), Lake and or Streambed Alteration Agreement or Incidental Take Permit (if required).

National Pollutant Discharge Elimination System Construction General Permit (if required).

Regional Water Quality Control Board Section 401 certification and waste discharge requirements (if required).

California Department of Transportation Right-of-Way Encroachment Permit, and Permit for Transport of Oversized Loads.

Eastern Kern County Air Pollution Control District Authority to Construct/Permit to Operate/Fugitive Dust Control Plan.

Rights-of-way crossing consent forms from Kern County, SCE, and Los Angeles Department of Water and Power (LADWP).

State Lands Commission Lease.

3.9 Cumulative Projects

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

According to the *CEQA Guidelines*:

"Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable and which compound or increase other environmental impacts.

(a) The individual effects may be changes resulting from a single project or a number of separate projects.

(b) The cumulative impact from several projects is the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (California Code of Regulations [CCR], Title 14, Division 6, Chapter 3, Section 15355).

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

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

Cumulative impact discussions for each environmental topic area are provided at the end of each technical analysis presented in Chapter 4 of this EIR. As previously stated, and as set forth in the *CEQA Guidelines*, related projects consist of "closely related past, present, and 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.

A list and description of past, present, and reasonably foreseeable projects near the project can be found in **Table 3-5, *Cumulative Projects List***. **Figure 3-12 *Cumulative Projects Map***, shows the approximate location of the proposed projects in Kern County considered in the cumulative analysis.

TABLE 3-5: CUMULATIVE PROJECTS LIST

Project Name/ CASE ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet	Project Status
KERN COUNTY PROJECTS – Figure 3-12							
1-Mile Project List							
1. BOWER, CHRISTENE	N/2 NW/4 SW/4 SEC 36	GPA TO 5.7 ZC TO E(5)	GPA ZCC	GPA TO 5.7 ZC TO E(5)	474-120- 34	20.00	Approved
2. EDF Renewable Development Inc.- Valentine Solar	W. of Rosamond, Southwest of SR-58	Commercial (100 MW) Solar Photovoltaic Facility	CUP	Commercial (100 MW) Solar Photovoltaic Facility	358-021- 04	2,250.00	Approved
3. EDF Renewable Energy/ Catalina Solar 2	125th Street W. Champagne Ave	CUP for new 15 meter microwave tower	CUP 11	CUP for new 15 meter microwave tower	474-154- 21	20.45	Approved
4. EDF Renewable Energy/BAR 13 Solar	125th Street W. Champagne Ave	Installation of microwave/communication tower with associated uses within a fenced yard	CUP	Installation of microwave/communication tower with associated uses within a fenced yard	474-131- 03	38.58	Approved
5. HUGHES, ARDEN/ BRUCE ANDERSON	NWC BRIGHT & LAUREL	TO E(2 1/2) RS FPS	ZCC	TO E(2 1/2) RS FPS	358-132- 08	9.00	Approved
6. HUNTER, LANY BY H&H SURVEYING	W/S 125TH ST W, 1/8 MI N GILLMAN	GPA FROM 5.8 TO 5.7 ZC TO E(50 RS FPS)	GPA ZCC	GPA FROM 5.8 TO 5.7 ZC TO E(50 RS FPS)	358-101- 04	20.00	Application Phase
7. IP Solar Company	SEC of McConnell & 105th	CUP for Solar Facility	CUP	CUP for Solar Facility	474-120- 04	40.00	Application Phase
8. MEGAWATT DEVELOPMENT HOLDINGS/JOHN BISSELL	N/S MCCONNELL AVE., ROSAMOND	1 MW SOLAR RESEARCH FACILITY	CUP	1 MW SOLAR RESEARCH FACILITY	474-140- 10	40.00	Application Phase
9. OPTISOLAR, EUGENE GABRYCH	140TH @ DAWN, ROSAMOND	TEMP. USE OF SOLAR RESEARCH AND DESIGN	CUP 23	TEMP. USE OF SOLAR RESEARCH AND DESIGN	358-021- 07	161.00	Application Phase

TABLE 3-5: CUMULATIVE PROJECTS LIST

Project Name/ CASE ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet	Project Status
10. SMITH, SHARON	3729 140TH STREET	KENNEL	CUP	KENNEL	358-320-52	2.39	Complete
11. WORKMAN, HARRY	14192 LODESTAR, ROSAMOND	KENNEL	CUP 24	KENNEL	358-132-05	5.00	Complete
12. Catalina Renewable Energy Project, enXco Development Corporation	South and west of the intersection of Backus Road and Tehachapi-Willow Springs Road	350 MW Solar and Wind Facility	CUP	EIR: Solar/Wind; GPA to change map code, zone change, CUP for solar energy and communication tower	474-100-06	6,739	Operational
13. Catalina Solar 2 Project, Catalina Solar 2 LLC and BAR 13 LLC	South and west of the intersection of Backus Road and Tehachapi-Willow Springs Road	150 MW Solar Facility	GPA, ZCC, CUP	EIR: Solar/Wind; GPA to change map code, zone change, CUP for solar energy and communication tower	474-100-06	7,500	Operational
6-Mile Project List							
14. ALLYN, GREG BY DON WARD	NWC of Kingbird Ave & 100th St W	ZC from A to E (2 1/2)	ZCC 30	ZC from A to E (2 1/2)	359-032-37	20.00	Approved
15. Apollo Solar Project by Lendlease Energy Dev.	SEC of Backus Rd & 100th St. W. NEC or Backus Road & 100th St. W.	CUP for Solar Project (Syracuse Site) CUP for solar project (Sunbow Site). APN 346-131-12, 13, 14, 15, 16, 17, 18 & 19)	CUP 39 CUP 37	CUP for Solar Project (Syracuse Site) CUP for solar project (Sunbow Site). APN 346-131-12, 13, 14, 15, 16, 17, 18 & 19)	346-022-03	165.87	In Process
16. AT&T (Andrew Hollihan) by Vance Pomeroy	NW corner of Gaskell Rd & 80th St West	70-foot monopine, Wireless Communication Facility	CUP	70-foot monopine, Wireless Communication Facility	374-364-06	0.00	Approved, Permit Issued

TABLE 3-5: CUMULATIVE PROJECTS LIST

Project Name/ CASE ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet	Project Status
17. AT&T by Vance Pomeroy	Gibbs Ave at Joshua Ln., Rosamond	Allow an 68'-6" tall monopine wireless communication facility with associated equipment shelter	CUP 42	Allow an 68'-6" tall monopine wireless communication facility with associated equipment shelter	345-142- 21	0.00	Approved, Permit Issued
18. AT&T by Vance Pomeroy	Sweetser Rd at Tobacco Rd, Rosamond	Allow a 70-foot tall monopine wireless communication facility with associated equipment shelter	CUP	Allow a 70-foot tall monopine wireless communication facility with associated equipment shelter	252-231- 03	0.00	Approved, Permit not issued
19. AT&T Mobility c/o Eukon Group	12764 Holiday Avenue, Rosamond CA	CUP for a new wireless telecom facility.	CUP	CUP for a new wireless telecom facility.	359-402- 01	0.00	Approved, Permit Issued
20. Aurora Lopez	76th St and Willow Ave	CUP for MH exceeding age as an additional single family dwelling	CUP 4	CUP for MH exceeding age as an additional single family dwelling	374-220- 19	4.96	Approved, Permit Issued
21. BELL, JOHN	8902 FELSITE AVE	TO A FPS	ZCC 2	TO A FPS	252-331- 20	5.00	Approved
22. BLUE EAGLE LODE MINING COMPANY	TROPICO	ZC TO NR	ZCC	ZC TO NR	252-070- 17	35.68	Approved, Operations have not commenced
23. BLUE EAGLE LODE MINING COMPANY	TROPICO	ZC TO NR	ZCC	ZC TO NR	252-100- 01	1.72	Approved, Operations have not commenced
24. BLUE EAGLE LODE MINING COMPANY	TROPICO	ZC TO NR	ZCC	ZC TO NR	252-070- 10	56.39	Approved, Operations have not commenced
25. Camino Solar Project by Aurora Solar, LLC	N. 175th St West. (Manzana Wind)	CUP for proposed 44 MW Solar Facility on public & private land	CUP	CUP for proposed 44 MW Solar Facility on public & private land	476-052- 09	339.00	In Process

TABLE 3-5: CUMULATIVE PROJECTS LIST

Project Name/ CASE ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet	Project Status
26. COPE, THOMAS	14837 AVENUE "A"	MOBILEHOME W/O STANDARDS	CUP 22	MOBILEHOME W/O STANDARDS	359-161- 07	7.50	Approved, Permit Issued
27. EDF Renewable Energy/ Catalina Solar 2		CUP for new 15 meter microwave tower	CUP 11	CUP for new 15 meter microwave tower	474-154- 21	20.45	Approved, Permit Issued
28. EDF Renewable Energy/BAR 13 Solar	125th Street W. Champagne Ave	Installation of microwave/communication tower with associated uses within a fenced yard	CUP	Installation of microwave/ communication tower with associated uses within a fenced yard	474-131- 03	38.58	Approved
29. EWING, JAMES	82ND STREET WEST	ZC TO A SF Dwelling	ZCC 1	ZC TO A SF Dwelling	374-031- 21	2.50	Approved, Permit Issued
30. HOLLIDAY ROCK COMPANY, INC	NWC TROTTER RD & 70TH ST WEST	MODIFICATION OF CUP	CUP 20	MODIFICATION OF CUP	345-100- 02	420.00	Operational
31. HOLLIS, JERALD	80TH STREET WEST	ZC TO M-1; REVISED 1/7/07 TO A Mobile home and residential structures	ZCC 1	ZC TO M-1; REVISED 1/7/07 TO A Mobile home and residential structures	252-332- 11	2.50	Approved
32. INNOVATIVE INC/STEPHEN TIMM	80TH ST. WEST/NORTH OF ROSAMOND BL	TO M-1 PD 5,000 sf office with 20,000 sf contractors storage yard for concrete contractor	ZCC 9	TO M-1 PD 5,000 sf office with 20,000 sf contractors storage yard for concrete contractor	252-141- 15	5.00	Approved
33. IP Solar Company	SEC of McConnell & 105th	CUP for Solar Facility	CUP	CUP for Solar Facility	474-120- 04	40.00	Application Phase
34. JONES, JIMMY	SO OF ROSAMOND BVLD @ 57TH ST WEST	MH NOT MEETING AGE & ARCHI	CUP 4	MH NOT MEETING AGE & ARCHI	375-341- 41	2.03	Approved, Permit Issued

TABLE 3-5: CUMULATIVE PROJECTS LIST

Project Name/ CASE ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet	Project Status
35. Tim Jones	4766 - 45th Street West, Rosamond	To allow a manufactured home exceeding 10 years	CUP	To allow a manufactured home exceeding 10 years	252-480- 05	0.00	Approved, Permit Issued
36. KURANI, NALINKANT	9808 55TH ST. WEST, MOJAVE	MH NOT MEETING AGE	CUP 29	MH NOT MEETING AGE	345-111- 09	5.00	Approved, Permit Issued
37. Landmark Surveying	2927 125th Street West	80' Communications Tower	CUP 29	80' Communications Tower	359-081- 09	0.00	Approved, Permit Issued
38. Lendlease Energy Development	SEC of Backus Rd. & 100th St. W.	concrete batch plant (for use in conjunction with construction of Apollo solar project)	GPA 5 CUP 40 CUP 41	concrete batch plant (for use in conjunction with construction of Apollo solar project)	346-022- 03		In Process
39. LOEFFLER, GREGORY	2890 62ND ST WEST	ZC TO M-1 PD Truck Storage yard or equipment rental yard	ZCC 2 CUP 7	ZC TO M-1 PD Truck Storage yard or equipment rental yard	375-220- 33	0.00	Approved
40. LOPEZ, AURORA	WILLOW AVE, ROSAMOND	INSTALLATION OF 1991 MOBILEHOME	CUP	INSTALLATION OF 1991 MOBILEHOME	374-220- 19	0.00	Approved, Permit Issued
41. MELCHERS, GENE	SWC 60TH AND ROSAMOND BLVD.	3 CARGO CONTAINERS FOR STORAGE	CUP 6	3 CARGO CONTAINERS FOR STORAGE	375-220- 07	0.00	Approved
42. MONROY, EDGAR	S/S WILLOW AVE, E/69TH STREET WEST	MOBILEHOME W/OUT STANDARDS	CUP 2	MOBILEHOME W/OUT STANDARDS	375-180- 04	2.50	Approved, Permit Issued
43. OPTISOLAR, EUGENE GABRYCH	140TH @ DAWN, ROSAMOND	TEMP. USE OF SOLAR RESEARCH AND DESIGN	CUP 23	TEMP. USE OF SOLAR RESEARCH AND DESIGN	358-021- 07	161.00	Approved

TABLE 3-5: CUMULATIVE PROJECTS LIST

Project Name/ CASE ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet	Project Status
44. PAZOOGOIN/PRIME SELF STORAGE	NEC ROSAMOND BLVD. 76TH ST. WEST	ZC TO M-1 PD Mini warehouse and RV/Boat Storage Facility	ZCC 8	ZC TO M-1 PD Mini warehouse and RV/Boat Storage Facility	252-142- 22	2.30	Approved
45. PENLAND, MICHAEL	6770 BACKUS RD.	KENNEL	CUP 30	KENNEL	345-141- 04	4.78	Approved
46. POTH, SUZANNE	8440 WOODLAND LANE	MODIFY CUP TO ALLOW CARGO CONTAINERS MODIFICATION OF CUP TO ALLOW 2 CARGO CONTAINERS ADDITIONAL DWELLING - MH W/O AGE STANDARD	CUP 27	MODIFY CUP TO ALLOW CARGO CONTAINERS MODIFICATION OF CUP TO ALLOW 2 CARGO CONTAINERS ADDITIONAL DWELLING - MH W/O AGE STANDARD	345-151- 05	5.00	Unknown
47. RE ROSAMOND TWO, LLC BY RECURRENT ENERGY	FAVARITO AVE. & 65TH STREET WEST	CONSTRUCTION OF A 20 MW SOLAR PV FACILITY	CUP 4	CONSTRUCTION OF A 20 MW SOLAR PV FACILITY	252-013- 01	160.00	Operational
48. Renita Rife	8543 W. Rosamond Blvd.,	Cargo Containers (2)	ZCC 5	Cargo Containers (2)	252-331- 19	2.27	Approved
49. Robert and Michele Slade	same as above	CUP for a cargo container	CUP 7	CUP for a cargo container	375-103- 32	0.00	Approved
50. ROCHA, JOAQUIN & NORMA	9159 W. AVE. A, ROSAMOND	SECONDARY R/U EXCEEDING SIZE Mobilehome	CUP 100	SECONDARY R/U EXCEEDING SIZE Mobilehome	374-450- 08	6.96	Approved
51. ROSAMOND 1 LLC BY RECURRENT ENERGY	FAVARITO AVE. & 65TH ST. W.	CUP FOR SOLAR GENERATION	CUP	CUP FOR SOLAR GENERATION	252-013- 01	320.00	Operational
52. SMITH, ROBERT BY B & D BUILDERS	3716 90TH STRET WEST, ROSAMOND	SECONDARY R.U. THAT EXCEEDS SIZE	CUP 3	SECONDARY R.U. THAT EXCEEDS SIZE	252-131- 01	4.55	Approved

TABLE 3-5: CUMULATIVE PROJECTS LIST

Project Name/ CASE ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet	Project Status
53. TRONCALE, CRAIG & LESLIE	7980 BIRCH AVE	DOG KENNEL & BREEDING	CUP 99 CUP 102	DOG KENNEL & BREEDING	374-122- 17	2.26 2.20	Approved
54. WILLIAMS, JOHN	6530 CYPRESS RD, ROSAMOND	CARGO CONTAINERS	CUP 103	CARGO CONTAINERS	374-142- 08	0.00	Approved
55. WORKMAN, HARRY	14192 LODESTAR, ROSAMOND	KENNEL	CUP 24	KENNEL	358-132- 05	5.00	Approved
56. AVEP Solar First Solar, et al	S of Dawn Road, west of 95th Street West, north Avenue A, and east of 130th Street West	EIR: Solar/Wind; GPA to change map code, zone change, CUP for solar energy and communication tower	CUP	EIR: Solar/Wind; GPA to change map code, zone change, CUP for solar energy and communication tower	252-341- 482		In Process

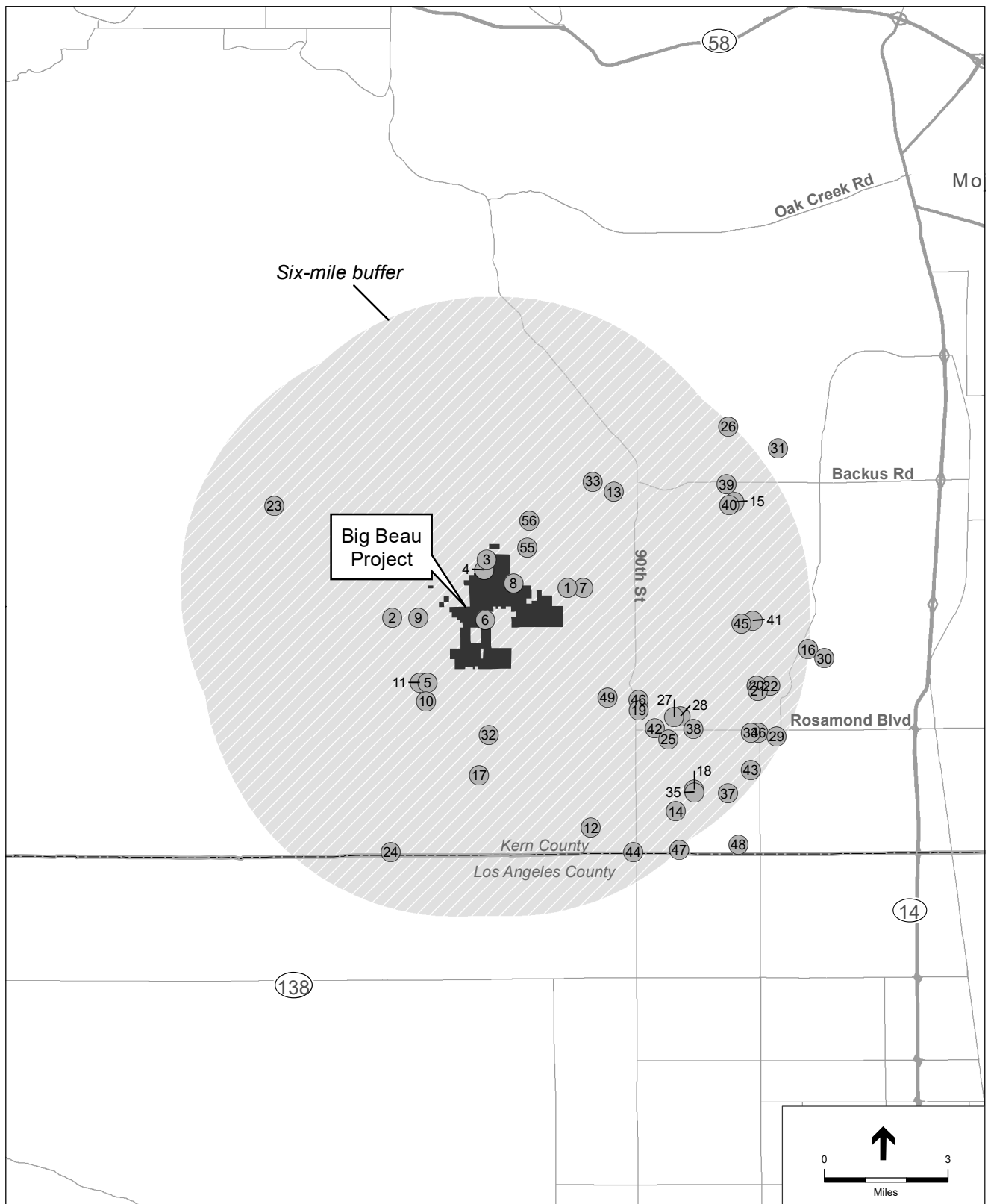


FIGURE 3-12: CUMULATIVE PROJECTS MAP

4.1.1 Introduction

This section of the EIR discusses impacts associated with the potential for the project to degrade the existing visual character or quality of the project site and its surroundings through changes in the existing landscape. Potential effects are evaluated relative to important visual features (e.g., scenic highways, scenic features) and the existing visual landscape and its users. Degradation of the visual character of a site is addressed through a qualitative evaluation of the changes to the aesthetic characteristics of the existing environment, and the project-related modifications that would alter the visual setting. A Visual Resources Technical Report was prepared for the project site (ICF, 2019a) to assess potential aesthetic impacts resulting from project implementation, and is located in Appendix B of this EIR. The terms and concepts presented in the discussion below are used to describe and assess the aesthetic setting and impacts from the project.

Visual Concepts and Terminology

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

Viewshed – defined as the surrounding geographic area from which the project is likely to be seen, based on topography, atmospheric conditions, land use patterns, and roadway orientations. “project viewshed” is used to describe the area surrounding a project site where a person standing on the ground or driving a vehicle can view the project site.

Key Observation Point (KOP) – one or a series of points on a travel route or at a sensitive use area, such as a residence, where the view of a project would be the most revealing.

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

Scenic highway – any stretch of public roadway that is designated as a scenic corridor by a federal, State, or local agency.

Sensitive receptors or sensitive viewpoints – viewer responses to visual settings are inferred from a variety of factors, including distance and viewing angle, type of viewers, number of viewers, duration of view, and viewer activities. The viewer type and associated viewer sensitivity are distinguished among project viewers in recreational, residential, commercial, military, and industrial areas. Viewer activities can range from a circumstance that encourages a viewer to observe the surroundings more closely (such as recreational activities), to discouraging close observation (such as commuting in heavy traffic). Residential viewers typically have extended viewing periods and are generally considered to have high visual sensitivity. For this reason, residential views are typically considered sensitive. Viewers from public parks, recreational trails, and/or culturally important sites also have high visual sensitivities; therefore, such

locations are considered sensitive viewpoints. Viewers in commercial, military, and industrial areas are not typically focused on the views and the areas do not promote enjoyment of views; therefore, viewers in these locations are assumed to have low sensitivity.

Viewing distance zones – the landscape is subdivided into three distance zones based on relative visibility from travel routes or observation points. The three zones are: foreground, middleground, and background. The foreground zone includes areas less than ¼ mile away, the middleground zone includes areas ¼ mile to 3 miles away, and the background zone includes areas beyond 3 miles (FHWA, 2015).

Visual sensitivity – the overall measure of an existing landscape’s susceptibility to adverse visual changes. When viewing the same landscape, people may have different responses to that landscape and any proposed visual changes, based upon their values, familiarity, concern, or expectations for that landscape and its scenic quality. Because each person’s attachment to and value for a particular landscape is unique, visual changes to that landscape inherently affect viewers differently. Nonetheless, generalizations can be made about viewer sensitivity to scenic quality and visual changes.

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

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

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

4.1.2 Environmental Setting

Regional Character

The project site is located in the Western Mojave Desert in the south-eastern portion of Kern County in central California. The project site is approximately 12 miles southwest of State Route 58 (SR-58) and approximately 9 miles east of State Route 14 (SR-14). The project is approximately 38 miles southeast of the City of Bakersfield, 13 miles south of the City of Tehachapi, and 1.9 miles northwest of the unincorporated community of Rosamond.

Existing development in the project vicinity includes rural access roads, scattered rural residences, producing and non-producing water wells, off-highway vehicle use, cattle ranching and maintenance facilities, mining, numerous wind and solar energy projects, and meteorological towers. Primary access to the project from the regional transportation system would be gained by exiting SR-14 on to Rosamond Blvd. SR-14 (Antelope Valley Freeway) is 9 miles to the east of the project area. West on Rosamond Boulevard, north on 140th Street West, and east on either Avenue of the Stars or Hamilton Road are the proposed primary access routes. Other routes for project access include the existing project access road for the Catalina Solar II project, the intersection of Avenue of the Stars and 130th Street West, and Favorito Avenue east of 110th Street West. The Pacific Crest National Scenic Trail (commonly known as the Pacific Crest Trail or PCT) is approximately 4.4 miles west of the project site.

Local Character

The project site is located on a hillside that gently slopes from the northwest toward the southeast. Topography within the proposed solar arrays area decreases gradually from 3,000 feet down to 2,700 feet above mean sea level (ICF 2019b). The area generally has low relief without significant topographic features.

As described in more detail in Section 4.4, *Biological Resources*, the project site is undeveloped and comprised of both disturbed and undisturbed native and desert nonnative habitats. Plant communities on the project site consist of Mojavean creosote bush scrub, Rabbitbrush scrub, field/pasture, and saltbush scrub. There are no residences or other noise sensitive receptors on the project site. Residential dwellings are scattered around the perimeter of the project site and are located at various distances from the project boundary. While three residential properties are adjacent to the project boundary, the remaining dwelling structures are generally farther away and are located at distances ranging from approximately 0.1 mile to beyond 1 mile of the project site boundary. While existing dwelling structures have been identified in the project site vicinity, not all of these structures are habitable or occupied with residents. In addition, residential dwellings are located within a quarter-mile of each of the gen-tie route options.

Scenic Highways

According to the California Department of Transportation (Caltrans) California Scenic Highway Mapping System, there are no Designated State Scenic Highways within Kern County (see Section 4.1.3, Regulatory Setting, below for more information on the State Scenic Highway Mapping System). The closest Eligible Scenic Highways are SR-14 (portion north of State Route 58 [SR-58]) located approximately 9 miles to the east of the project site and SR-58 (portion east of SR-14) located 12 miles south of the project site (Caltrans, 2017). Prominent views along SR-14 and SR-58 adding to the scenic elements in the landscape for motorists include panoramic views of the open Mojave Desert landscapes and surrounding mountains. According to the Kern County General Plan Circulation Element, a scenic route is any freeway, highway, road, or other public right-of-way, which traverses an area of exceptional scenic quality. The Circulation Element contains goals and policies that discuss designating SR-14 as a scenic highway to protect adjacent viewsheds.

Lighting Environment

The project site is currently rolling grassland and devoid of lighting sources (e.g., buildings, street lights) at exterior or interior locations. Very minor sources of light are present at adjacent residences. The main

source of nighttime lighting, although insubstantial, is from motorists passing through the area with headlights on and potentially from the required FAA lights on the wind turbines projects in the vicinity.

Solar Panel Glare Potential

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

A common misconception about solar photovoltaic (PV) panels is that they inherently cause or create “too much” glare, posing a nuisance to neighbors and a safety risk for pilots. In certain situations, the glass surfaces of solar PV systems can produce glint (a momentary flash of bright light) and glare (a reflection of bright light for a longer duration); however, light absorption, rather than reflection, is central to the function of a solar PV panel so that it may absorb solar radiation and convert it to electricity. Solar PV panels are constructed of dark-colored (usually blue or black) materials and are covered with anti-reflective coatings. Modern PV panels reflect as little as two percent of incoming sunlight, which is similar to water and less than soil and wood shingles. Some of the concern and misconception is likely due to the confusion between solar PV systems and concentrated solar power (CSP) systems. CSP systems typically use an array of mirrors to reflect sunlight to heat water or other fluids to create steam that turns an electric generator (Palmer and Laurent, 2014).

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

4.1.3 Regulatory Setting

Federal

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 4.4 miles northwest of the project boundary. The proposed project would be visible in middleground views from select areas of the trail. This segment of the Pacific Crest Trail traverses miles of wind farms and adjacent solar developments. Although the Pacific Crest Trail is outside the 2-mile impact analysis area, it is included as a sensitive receptor because of its significance as a recreational resource.

State

California Scenic Highway Program

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

As described in Section 4.1.2, *Environmental Setting*, there are no Designated State Scenic Highways within Kern County. The closest Eligible Scenic Highways are SR-14 (portion north of SR-58) located approximately 9 miles to the east of the project site, and SR-58 (portion east of SR-14) located approximately 12 miles south of the project site (Caltrans, 2017).

Local

Kern County General Plan

The Land Use, Open Space, and Conservation Element of the Kern County General Plan (County of Kern, 2009) evaluates the visual and aesthetic setting of Kern County and assesses the potential for visual impacts. The Kern County General Plan Energy Element defines critical energy related issues facing the County and sets forth goals, policies, and implementation measures to protect the County's energy resources and encourage orderly energy development while affording the maximum protection for the public's health, safety, and the environment. Further, the Kern County General Plan Circulation Element provides guidelines for development near Scenic Routes. A Scenic Route is defined in the Kern County General Plan as any freeway, highway, road, or other public right-of-way which traverses an area of exceptional scenic quality. A roadway can only be designated as a scenic route by direct action of the Kern County Board of Supervisors or the State of California. A route may not be selected as scenic until a visual assessment of the route has been conducted to determine if the route meets the current scenic highway criteria as mentioned above and to what extent development has encroached on the scenic views. The County also has to prepare and adopt a plan and program for the protection and enhancement of adjacent roadside viewshed

land. As such, goals, policies and implementation measures regarding Scenic Routes in the Circulation Element are focused toward the need for the County to further develop their Scenic Route program and measures to protect scenic resources, which are not applicable to the proposed project.

The Kern County General Plan does not identify any significant resources or Scenic Routes within the vicinity of the proposed project; therefore, no policies regarding development within Scenic Routes would be applicable to the project. However, the Kern County General Plan provides general goals and policies for design features of development projects in order to reduce their impacts to scenic resources. The policies and implementation measures in the Kern County General Plan for aesthetic resources applicable to the proposed project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

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

1.10.7 Light and Glare

Policies

- Policy 47: Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.
- Policy 48: Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.

Implementation Measures

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

Chapter 5: Energy Element

5.4.7 Transmission Lines

Goal

- Goal: 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.

Willow Spring Specific Plan

The southern portion of the proposed project site (approximately 1,298 acres) occurs within the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in 1992 and amended in 2008 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 needs of the expanded Willow Springs area. The aesthetic-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County Department of Planning and Development Services 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

Land Use Element

Policies

Policy 1: Encourage the maintenance of visual aesthetics in all new construction.

Mitigation/Implementation Measures

Measure 16: A Joshua Tree Preservation and Transportation Plan shall be developed by the applicants for each parcel where Joshua trees are located on site. The plan shall be submitted to the Kern County Agricultural Commissioner's Office for review and approval prior to grading permit issuance.

Measure 17: Initial development within the Willow Springs Specific Plan Update area shall, when possible, be directed towards previously impacted areas (i.e., agricultural fields). Portions of the plan area with native vegetation, especially along the northern and western borders, shall be developed in the later phases of project buildout.

Kern County Zoning Ordinance

Chapter 19.81, Dark Skies Ordinance (Outdoor Lighting)

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

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

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

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

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

Kern County Development Standards

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

4.1.4 Impacts and Mitigation Measures

Methodology

The project's potential impacts to aesthetics have been evaluated using a variety of resources. In general, the potential aesthetic, light, and glare impacts associated with development projects are evaluated on a qualitative basis. A Visual Resources Technical Report was prepared for the project site (ICF, 2019a) to assess potential aesthetic impacts resulting from project implementation and is located in Appendix B of this EIR. This visual impact assessment is being utilized to identify and assess any potential long-term adverse visual impacts on aesthetics and visual resources that might result from implementation of the project during construction and operation. This assessment is based on the approved visual assessment practices employed by the Federal Highway Administration (FHWA, 2015), the U.S. Forest Service (USFS, 1995), and other federal regulatory agencies. This method includes:

- Defining the project and its visual setting by assessing the project proponent's submitted project application materials, including plans and descriptions, and reviewing Google Earth Pro aerial photographs and street-level photography, Kern County Geographic Information System (GIS) topographic and land use data, and U.S. Geological Survey (USGS) topographic data;
- Conducting a field visit in December 2018 of the project site and vicinity to document the following:
 - Project site's visual characteristics.
 - Project vicinity's visual characteristics.
 - Establish a visual characteristic baseline.
 - Location of visual (sensitive) receptors in the vicinity.
- Establishing five Key Observation Points (KOPs) within vicinity from which to evaluate potential visual impacts resulting from implementation of the proposed project.
- Preparing visual simulations of post-development views from the KOPs.
- Assessing the project's impacts to sensitive views by applying the visual quality rating system to each of the visual simulations.
- Proposing methods to mitigate any potentially significant visual impacts identified.

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

Selection of Key Observation Points

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

The process of identifying KOPs focused on selecting viewpoints that could be used to accurately represent views from a broader range of viewpoints, particularly viewpoints from area sensitive receptors. The nature of solar fields, with large numbers of nearly identical and relatively low-lying PV panels, means that the views encountered from differing angles would often be quite similar. Sensitive receptors near the site include rural scattered residences including those adjacent to the project site. In addition, recreational users of the PCT are analyzed as sensitive receptors.

The familiarity with the view also influences how much attention is spent on the visual environment. Regular motorists may be highly familiar with the view and sometimes pay less attention; however, these motorists tend to be much more sensitive to changes in that view. People who are less familiar with the view may spend more time looking at the surrounding land, but would not notice changes in the view. The majority of existing motorists are likely to be residents driving to and from home. There are no designated scenic highways within the viewshed of the project that would attract recreational drivers.

The project site is located in a rural area. As described in Section 4.1.2, *Environmental Setting*, above, scattered rural residences are found surrounding the site. Among these residents, those with direct views of the site from their homes would tend to be the most sensitive to changes in the view. These residents tend to have much more familiarity with the existing viewshed and a heightened sensitivity to any visual changes within the landscape.

Five KOPs were selected for visual simulation to create post-development views. The evaluated KOPs are mapped on **Figure 4.1-1, Key Observation Points (KOPs) and Visual Simulation Photograph Locations**, and described below in **Table 4.1-1, Key Observation Points**. The KOPs selected for simulation were chosen because they represent views that residents, motorists, and recreational users would experience from their adjacent homes and local roadways, respectively, when viewing the project site. The selected KOPs represent views not only from the selected viewpoints, but also for other sensitive receptors throughout the project's vicinity.

Simulation Preparation

Visual simulations of the project from the identified KOPs were prepared to provide a comparison of pre- and post-project conditions as well as context for qualitative description of the aesthetic changes that would result from the project. Photographs were taken during a site visit in December 2018 and simulations were prepared (ICF, 2019a) using the assumptions and methodologies listed below in **Table 4.1-2, Visual Simulation Methodology and Assumptions**, below.

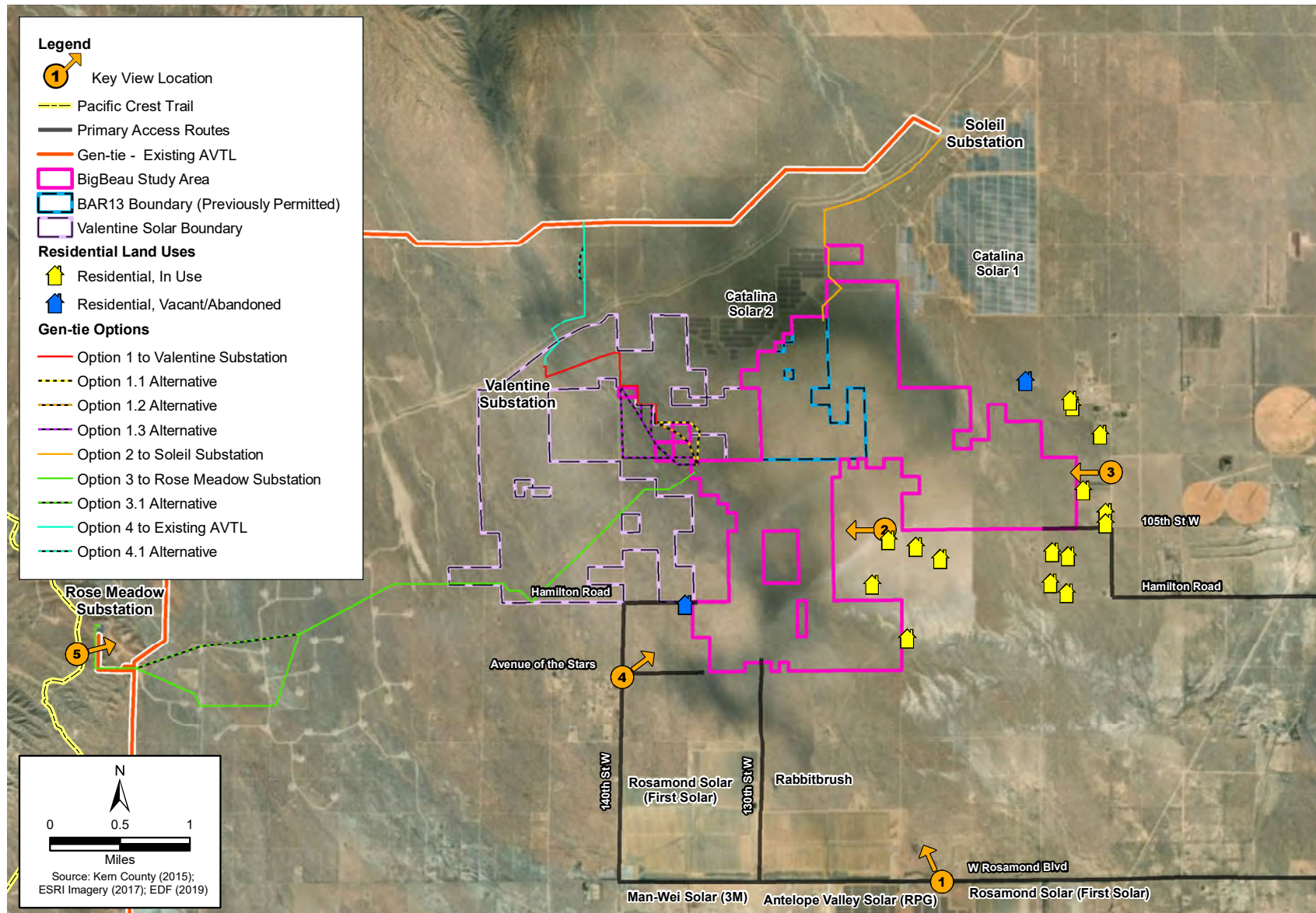


FIGURE 4.1-1: KEY OBSERVATION POINTS (KOPS) AND VISUAL SIMULATION PHOTOGRAPH LOCATIONS

TABLE 4.1-1: KEY OBSERVATION POINTS

KOP	Location	Representative Sensitive Viewers
1	From Rosamond Boulevard looking northwest toward the project.	Residents and motorists to the south of the project.
2	From Favorito Avenue looking west toward the project.	Residents and motorists along the eastern boundary of the project.
3	From 105th Street West looking west toward the project.	Residents and motorists along the eastern boundary of the project.
4	From 140th Street West looking northeast toward the project.	Residents and motorists along the southwestern boundary of the project.
5	From Pacific Crest Trail looking east toward the project.	Individuals travelling west of the project along the Pacific Crest Trail.

TABLE 4.1-2: VISUAL SIMULATION METHODOLOGY AND ASSUMPTIONS

Photography from Key Observation Points	<ul style="list-style-type: none"> • Photos were taken on a sunny/clear day in December 2018 • Visibility: 6 miles plus
Visual simulation assumptions	<ul style="list-style-type: none"> • Solar panels are 18 feet in height. • Solar panels are single axis tracking system and are shown at 45-degree rotation. • Fencing is 8 feet in height, including 6 feet of chain link topped by 2 feet of barbed wire. • Microwave tower is 90 feet in height.
Methods	<p>Following data gathering phase, the process began with a determination of proposed camera locations and / or station points. Upon review and approval of camera locations, ICF coordinated the engineered site photography and scheduled the initial site visit. This included identification of reference points with GPS coordinates and specific fields of vision for each view. Concurrently, the modeling team developed an exact computer model of the proposed solar panels illustrate elevations, natural and finished pads including existing and surrounding contextual elements such as streets, terrain, pads, and adjacent buildings (where applicable) used as reference. Upon completion of the 3D modeling phase, realistic materials, maps, and textures were then applied. The next phase was assembly, during which the modeling was inserted into photographs taken during the field study using a full frame camera and camera match technology. 3D pads and boundary outlines were used to situate the panels to the proposed positions as shown on the cad provided. During this process, a computer model camera was aligned with the onsite photography to depict the project setting within each view. Lastly, a proposed landscape concept was applied (where applicable) and final artistic touches were made to ensure accuracy, as well as the look and feel, was consistent with the vision of the project.</p>
SOURCE: ICF, 2019a	

A comparison of existing views from the KOPs with visual simulations depicting visible proposed project features, aided in determining project-related impacts. The simulations present a representative sample of the existing landscape setting contained within the project site, as well as an illustration of how the project may look from the identified KOPs. Solar arrays are visually similar regardless of the manufacturer. Therefore, the solar arrays shown in the visual simulations are not necessarily identical to those that would be developed on the sites, but are similar enough to evaluate project impacts to aesthetics.

Rating Visual Quality

“Visual quality” is a measure of a landscape or view’s visual appeal. This analysis determines visual impacts by evaluating changes to the existing visual quality and predicting viewer sensitivity to those changes. As such, visual impacts are measured by the compatibility or incompatibility of the physical changes to the environment that are caused by a project’s scale, form, and materials, which are seen by viewers, and the extent to which viewers care about—or how sensitive viewers are to—how a project changes the environment. Visual impacts can result in beneficial, adverse, or neutral changes to the visual environment and visual quality. Viewers have an inherent understanding of what constitutes project cohesion, which aids in determining the type of impact. The degree to which a project meets the preferred concept of project cohesion determines the level of impact.

Neutral impacts reflect little change to the visual environment and visual quality, retaining the existing landscape composition and vividness. Beneficial impacts can result where visual quality is improved through the enhancement of visual resources or where visual experiences are improved through the creation of new or improved views of resources. The level of beneficial impact is determined by how much a project improves the existing landscape composition and vividness and can range from small to very substantial improvements. Adverse or negative impacts can result when visual quality is degraded through visual resource modification or by blocking or altering views in a negative manner. The level of adverse impact is determined by how much a project degrades the visual landscape and ranges from general negative changes to severe declines in the existing landscape composition and vividness (FHWA, 2015). The type and level of impacts for the BigBeau Solar Project are evaluated 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.

Visual Compatibility

Project environment can be affected by the visual character of grading, constructed elements, vegetative cover, infrastructure, and other ancillary visual elements associated with a project that interact to form a composition. These elements are described in more detail in **Table 4.1-3, *Visual Character Element of Project Environment***. These changes affect the natural and cultural environments in the study area and viewers evaluate the project components to determine if the project’s composition is compatible or incompatible with the existing visual landscape. This viewer response determines how the existing landscape composition and vividness would be affected by a proposed project

Viewer Response

Viewers make up the population affected by a project; they are the people whose views of the landscape may be altered by the proposed project, either because the landscape itself has changed or their perception of the landscape has changed. Viewers experience the visual landscape and respond to the natural and cultural environment and the design of built features in those environments.

TABLE 4.1-3: VISUAL CHARACTER ELEMENT OF A PROJECT ENVIRONMENT

Feature	Description of Element	Visual Attributes
Grading	Alteration of the existing landform, or the grading, required to accommodate the project.	The visual character of the physical forms generated by grading, such as grading of slopes, the need for cuts and fills, and the presence of rock cuts and retaining walls, all affect visual quality. The surface appearance of rock cuts and retaining walls also affects the visual character of the project area.
Constructed Elements	Buildings, infrastructure, and structures resulting from project implementation. Buildings can include homes, businesses, institutions, and so on. Infrastructure can include new roads, parking lots, sidewalks, trails, utility lines, and telecommunication towers. Structures can include bridges, viaducts, culverts, retaining walls, noise walls, and other large-scale visual elements.	The visual character of constructed elements is described in terms of their form, scale, massing, and material compared to the existing built and natural environment. The setting and orientation of the structures, interplay between light and shadow, and artistic attributes like color, pattern, and texture also affect visual character. Whether a feature obstructs or generates views is also important.
Vegetative Cover	Vegetation associated with the project, such as hydroseeding for erosion control, plantings for habitat enhancement or restoration, and landscaping for aesthetics and shade. Also, vegetative cover may be removed by project activities.	The visual character of the project's vegetative cover; its density, distribution, and species composition compared to the existing natural environment. Attributes of the plants (such as seasonal color) and the ecological setting are also important.
Ancillary Visual Elements	May include signage, mailboxes, benches, fencing and gates, bollards, plant containers, or other features.	Such features contribute to the project's appearance as components of the project's visual character, and existing and proposed elements are described in relation to each other.
SOURCE: ICF, 2019a		

Table 4.1-4, *Viewer Response Ratings*, provides descriptions for the seven levels used for determining viewer response, which is in part affected by distance zones. Evaluating visual quality and viewer response must also be based on a regional frame of reference (ICF, 2019a). The same visual resource appearing in different geographic areas could have a different degree of visual quality and associated viewer sensitivity in each setting. For example, a small hill may be a significant visual element on a flat landscape but have very little significance in mountainous terrain.

Viewers have an inherent understanding of visual quality and what constitutes natural harmony, cultural order, and project cohesion. The degree to which a project meets these preferred concepts determines the level of change in visual quality. To assess the degree and level of impacts to visual resources, a visual quality rating is applied to both existing and proposed project conditions. The degree of change from the existing (without project) visual quality to the visual quality with the proposed project is used to determine the level, or intensity, of visual impacts. Intensities may range from being less substantial and reflect little change to the visual environment and visual quality, retaining the existing landscape composition and vividness and the visual quality stays essentially the same (Proposed Visual Quality = Existing Visual Quality). Conversely, impacts may be more substantial when visual quality is degraded through general negative changes to visual resources or by blocking or altering views in a negative manner, decreasing the visual quality (Proposed Visual Quality < Existing Visual Quality). Decreasing visual quality by one value rating is an impact of moderate intensity, whereas decreasing visual quality by more than one value constitutes a more severe impact (ICF, 2019a).

TABLE 4.1-4: VIEWER RESPONSE RATINGS

Response Ratings	Response Descriptions
Very Low (VL)	A very small fraction of total viewers* with instantaneous (e.g., highway speeds) views toward project site. Views of the project site tend to be in the middleground or background or are highly obscured in the foreground. Negligible interest in the visual landscape.
Low (L)	Very few of total viewers* with instantaneous (e.g., highway speeds) views toward project site. Views of the project site tend to be in the middleground or background. Little interest in the visual landscape.
Moderately Low (ML)	Few of total viewers* with short (e.g., local roadway speeds) views toward project site in the middleground or background. May include fewer viewers with instantaneous views of the project in the foreground. Limited interest in the visual landscape.
Moderate (M)	A number of the total viewers* with intermittent (e.g., visitors at parks) views toward project site in the foreground. May include fewer viewers with shorter viewing times of the project in the foreground. May also include viewers with extended (e.g., places of businesses) or permanent (e.g., residents) viewing times of the project in the distant middleground to closer background towards areas with high community interest. General interest in the visual landscape.
Moderately High (MH)	Many of total viewers* with extended viewing times (e.g., places of businesses) toward project site in the foreground or middleground. May include fewer viewers with shorter viewing times toward areas with high community interest in the foreground or middleground. May also include fewer viewers with shorter viewing times toward sensitive visual resource(s) in the distant middleground to closer background. Invested interest in the visual landscape.
High (H)	Most or all of total viewers* with permanent (e.g., residents) views toward project site in the foreground or middleground. May include fewer viewers with shorter viewing times toward sensitive visual resource(s) in the foreground or middleground. Highly invested interest in the visual landscape.
Very High (VH)	May include a variety of viewers with permanent (e.g., residents) or intermittent (e.g., recreationists/tourists) views toward sensitive visual resource(s) of local, national, or global interest. Extremely high invested interest in the visual landscape, due to public awareness of the resource.
* Relative to total number of viewers of the project.	
SOURCE: ICF, 2019a	

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 would have a significant impact on aesthetics if it would:

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

- b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- c. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage points) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; or
- d. Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.

Project Impacts

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

Scenic vistas are areas identified or known for high scenic quality. Scenic vistas may be designated by a federal, State, or local agency. Scenic vistas can also include an area that is designated, signed, and accessible to the public for the express purposes of viewing and sightseeing. There are no local areas that are designated as scenic vistas within the vicinity of the project. However, the project site is located approximately 4.4 miles southwest of the Pacific Crest Trail (PCT), which is designated as a National Scenic Trail by the U.S. Forest Service. The PCT is a public recreational facility recognized as offering views that can be considered scenic. However, given the 4.4-mile distance, existing wind and solar developments, views of the project site are likely non-existent and if there is a view, it would not be a predominant subject of views from the PCT. Therefore, the project would not have a substantial effect on a scenic vista and impacts would be less than significant.

Mitigation Measures

Kern County

No mitigation would be required.

State Lands Commission

No mitigation would be required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

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.

The project would not be visible from any Officially Designated State or County Scenic Highway. Although both SR-14 north of Mojave and SR-58 east of Mojave are designated as Eligible (E) for State Scenic Highway status (Caltrans, 2017), they have not yet been Officially Designated. Therefore, construction and operation of the proposed project would not change the viewshed from any Officially Designated State or County Scenic Highway and impacts would be less than significant.

Mitigation Measures

Kern County

No mitigation would be required.

State Lands Commission

No mitigation would be required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

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.

The proposed project would be located in a rural area. Therefore, the project would not conflict with applicable zoning and other regulations governing scenic quality in an urbanized area.

Construction

Construction activities associated with the proposed project would create temporary changes in views of the project site. Furthermore, construction activities would introduce a considerable amount of heavy equipment, including backhoes, compactors, tractors, and trucks, into the viewshed of all viewer groups. Construction would be expected to take place between 6:00 a.m. and 9:00 p.m. over a period of 10 to 14 months and require the following temporary facilities on the site: assembly areas, parking areas, and staging and laydown areas.

Dust control practices would be implemented during construction to reduce the potential for slow-moving dust clouds, which could attract attention from visual receptors and reduce the availability of short-range views. Construction traffic moving along Rosamond Boulevard, SR-14, 130th Street West, 140th Street West, and Hamilton Road would be visible in the foreground and middleground from adjacent residences as well as local roadways. In addition, staging and laydown areas and concrete batch plants would also be visible as temporary fixed features in the foreground and middleground from some adjacent residences and local roadways. However, the project would require minimal grading and would restore the temporarily disturbed areas. This would ensure that the same vegetative communities would recolonize the site (ICF, 2019a).

Viewers are accustomed to seeing heavy machinery associated with the construction of other solar facilities in the area. In addition, construction would not take place over an extended period of time (a maximum of 14 months), and visual changes resulting from construction would be considered short term and temporary.

Operation

In order to determine whether the proposed project would substantially degrade the existing visual quality of the site, this analysis compares the existing visual setting with visual simulations of the post-project visual conditions. As described above, five KOPs were selected for visual simulation. These KOPs are representative of views that would be experienced from numerous sensitive receptor locations.

Visual simulations are provided in **Figures 4.1-2** through **4.1-6**. Impacts associated with operation of the project would vary by viewer location and are discussed below by KOP. The rating system and impacts methodology are discussed in the “Rating Visual Quality” section above.

The solar facility would introduce solar fields, or arrays, into much of the project site. Battery containers, transmission and collection lines, a substation, an O&M building, storage yards, dirt or gravel access roads, a 90-foot microwave tower, and a 6-foot-high chain-link perimeter fence with 2 feet of barbed wire at the top would be visible for up to 35 years in the foreground and middleground views available to residents, workers at nearby solar facilities, and travelers on surrounding roadways.

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

The O&M facility would add a building, utilities and infrastructure, and industrial-looking elements into the landscape that could be visible to sensitive viewers if viewers are located in proximity to these features and if terrain, vegetation, and the proposed solar modules do not obscure views of these features. The microwave/communication tower (up to 90 feet high) would introduce a tall vertical element into the landscape that would most likely be located next to the O&M facility and substation. Therefore, this tower is likely to blend in with the utility poles or towers associated with the preferred gen-tie option, resulting in the same type of impact discussed for the gen-tie options. Roads, driveways, and parking lot entrances would be constructed in accordance with Kern County improvement standards, would be consistent with existing roadways in the area, and would not greatly alter the visual landscape. Chain-link fences would be 6 feet tall, with 2 feet of barbed wire at the top. Equipment at the project substation would include transformers, buswork, switches, and breakers; all associated equipment would be required to comply with regulations regarding utility-grade interconnection services. These features could introduce industrial-looking elements into the landscape that could be visible to sensitive viewers if viewers are located in proximity to these features and if terrain, vegetation, and the proposed solar

modules do not obscure views of these features. In addition, the preferred gen-tie option would introduce utility poles and lines that would connect the Valentine Substation to the proposed BigBeau Substation.

The gen-tie options connecting to the Valentine Substation include gen-tie Options 1, 1.1, 1.2, and 1.3, which are shown in **Figure 3-2, Project Site Boundary and Site Plan**, in Chapter 3, *Project Description*, of this EIR. All of these options are located approximately 1.5 miles north of the nearest residential visual receptor and within the boundaries of Valentine Solar. Therefore, although these features would introduce additional utilities into the landscape, they are not likely to be visible when seen from the nearest residence because of the distance or because, at this distance, they would blend-in with existing utility lines associated with Valentine Solar. Views of the utility lines may be more apparent to roadway travelers and recreationists using roadways that approach the gen-tie options. However, as state above, these features would blend with existing utility lines associated with TRTP, Valentine Solar, Catalina Solar 2, and Catalina Solar 1 and be consistent with existing utilities common to and visible within the study area.

The microwave/communication tower (up to 90 feet high) would introduce a tall vertical element into the landscape that would most likely be located next to the O&M facility and substation. Therefore, this tower is likely to blend in with the utility poles or towers associated with the preferred gen-tie option, resulting in the same type of impact discussed for the gen-tie options, above.

Solar modules would be made up of individual panels that would use either fixed-tilt or tracker technology. Each module would be up to 18 feet tall and have 2 feet of clearance between the bottom and the ground.

KOP 1. Figure 4.1-2, Existing and Simulated Views from Rosamond Boulevard Looking North Towards the Project, shows views from Rosamond Boulevard looking north toward the project site. This KOP accurately reflects views that residents and motorists to the south of the project would experience. As shown in the simulation for KOP 1, the solar facility would be visible in the distance. The facility would appear as a large dark-gray to almost black band that would follow the terrain, replacing the tan soil and orange-brown color of the desert vegetation. Given this alteration, the natural harmony of KOP 1 would be slightly reduced by the proposed project but would remain moderately high because the low-profile design would not disrupt views toward the mountains and hills beyond. Similarly, cultural order would be slightly reduced by the additional visual intrusion of the solar facility but would remain moderate because of the facility's low-profile design. However, the project site is currently undeveloped; therefore, the proposed project would be slightly incoherent relative to existing conditions because it would convert a site that is in a mostly natural condition to an industrial solar production site. These slight reductions in natural harmony, cultural order, and site coherence would reduce the overall visual quality of KOP 1 from moderately high to moderate (ICF, 2019a).

The project would use fixed tilt or single axis tracking panels. The latter is more likely and, if selected, the panels would be arranged in parallel rows that would run north-south across the site, with the tracking panels facing eastward or westward depending on the time of day. This would appear as a large massing of repetitive lines that are draped across the landscape, which would be created by the lower-lying form and layout of the panels that would follow the site's topography. **KOP 2. Figure 4.1-3, Existing and Simulated Views from Favorito Avenue Looking West Toward the Project**, shows views from Favorito Avenue looking west toward the project site. **KOP 3. Figure 4.1-4, Existing and Simulated Views from 105th Street West Looking West Toward the Project**, shows views from 105th Street West looking west toward the project site. These KOPs accurately reflects views that residents and motorists along the eastern boundary of the project would experience.



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT



Existing View

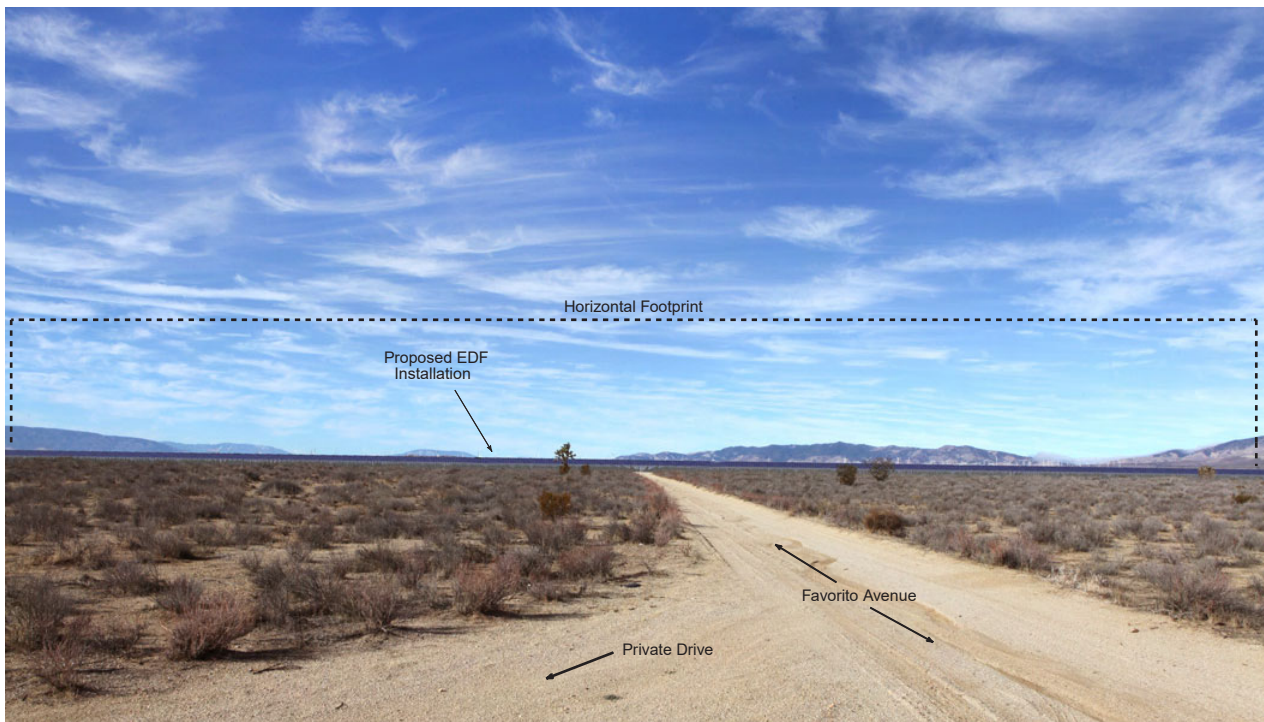


Proposed View

**FIGURE 4.1-2: KOP 1: EXISTING AND SIMULATED VIEWS FROM ROSAMOND BOULEVARD
LOOKING NORTH TOWARDS THE PROJECT**



Existing View



Proposed View

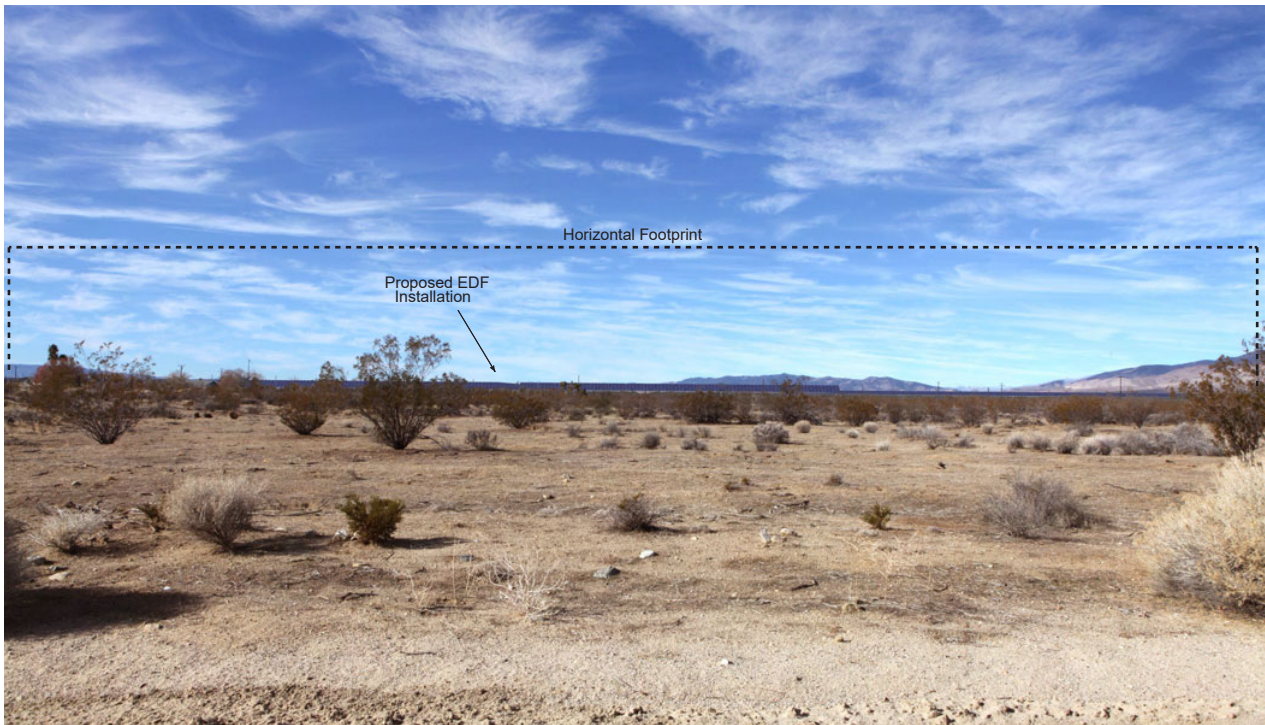
**FIGURE 4.1-3: KOP 2: EXISTING AND SIMULATED VIEWS FROM FAVORITO AVENUE
LOOKING WEST TOWARD THE PROJECT**



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT



Existing View



Proposed View

**FIGURE 4.1-4: EXISTING AND SIMULATED VIEWS FROM 105TH STREET WEST
LOOKING WEST TOWARD THE PROJECT**

As shown in the simulation for KOP 2 and KOP 3, the panels would appear as a straight line when viewed at 90° from the east, looking west. The panels located behind the first row of panels would not be readily visible and the arrays on the site's eastern and western borders would obscure views toward the interior of the site for ground level views, as shown in the simulations. The terrain is mostly flat but has some gentle undulations that would aid in obscuring the lower portions of the arrays. Low-growing vegetation works with the gentle undulations in the terrain to obscure the lower portions of the arrays so that the upper portions of the facility and the gray chain-link fencing are mostly visible. The square solar panels would appear to be a dark-gray to almost black band that would follow the terrain and would be seen rising above the natural, irregular texture of the orange-brown, tan, and gray desert vegetation. In addition, the lightly colored, narrow support posts would be partially to more fully visible if there are low spots or gaps in vegetation, such as down roadway corridors. As a result of the site conditions and panel orientation, the rows of panels would be more visible when looking from vantage points northwest, north, northeast, southeast, south, or southeast of the project site, where views of the parallel rows would be more apparent and a greater number of panels would be visible. From both of these KOPs, the O&M facility and the gen-tie line would not be visible to viewers. Furthermore, the natural harmony of Key Views 2 and 3 would be reduced from moderately high to moderate by the abrupt break in the naturalized ground plane, which would be replaced with a solar facility. In addition, although the project would have a low-profile design, the arrays would be tall enough to obscure views toward the lower portions of the mountains and hills beyond. The cultural order would be slightly reduced by the additional visual introduction of the solar facility but would remain moderate because of the facility's low-profile design, which would not dominate the viewshed. However, the project site is currently undeveloped; therefore, the proposed project would be slightly inconsistent relative to existing conditions because it would convert a site that is in a mostly natural condition to an industrial solar production site. These reductions in natural harmony, cultural order, and project site coherence would reduce the overall visual quality of KOPs 2 and 3 from moderately high to moderate (ICF, 2019a).

KOP 4. Figure 4.1-5, *Existing and Simulated Views from 140th Street West Looking Northeast Toward the Project*, shows views from 140th Street West looking northeast toward the project site. This KOP accurately reflects views that residents and motorists along the southwestern boundary of the project would experience. As shown in the simulation for KOP 4, undisturbed vegetation and the terrain along 140th Street West obscure the lower portions of the arrays; views to the facility's interior are not available. Only the upper portions of the gray chain-link fencing and the solar panels would be visible. These features may alter views of the tops of the Rosamond Hills. The O&M facility, towers, and the gen-tie line would not be visible to viewers from this key view. Although the project would have a low-profile design, the natural harmony of KOP 4 would be slightly reduced from moderately high to moderate because the arrays would be tall enough to obscure views toward the hills beyond. Similarly, although the facility's low-profile design would not dominate the viewshed, the cultural order would be slightly reduced from moderately high to moderate by the additional visual intrusion of the solar facility. However, the project site is currently undeveloped; therefore, the proposed project would be slightly inconsistent relative to existing conditions because it would convert a site that is in a mostly natural condition to an industrial solar production site. These reductions in natural harmony, cultural order, and project site coherence would reduce the overall visual quality of KOP 4 from moderately high to moderate (ICF, 2019a).

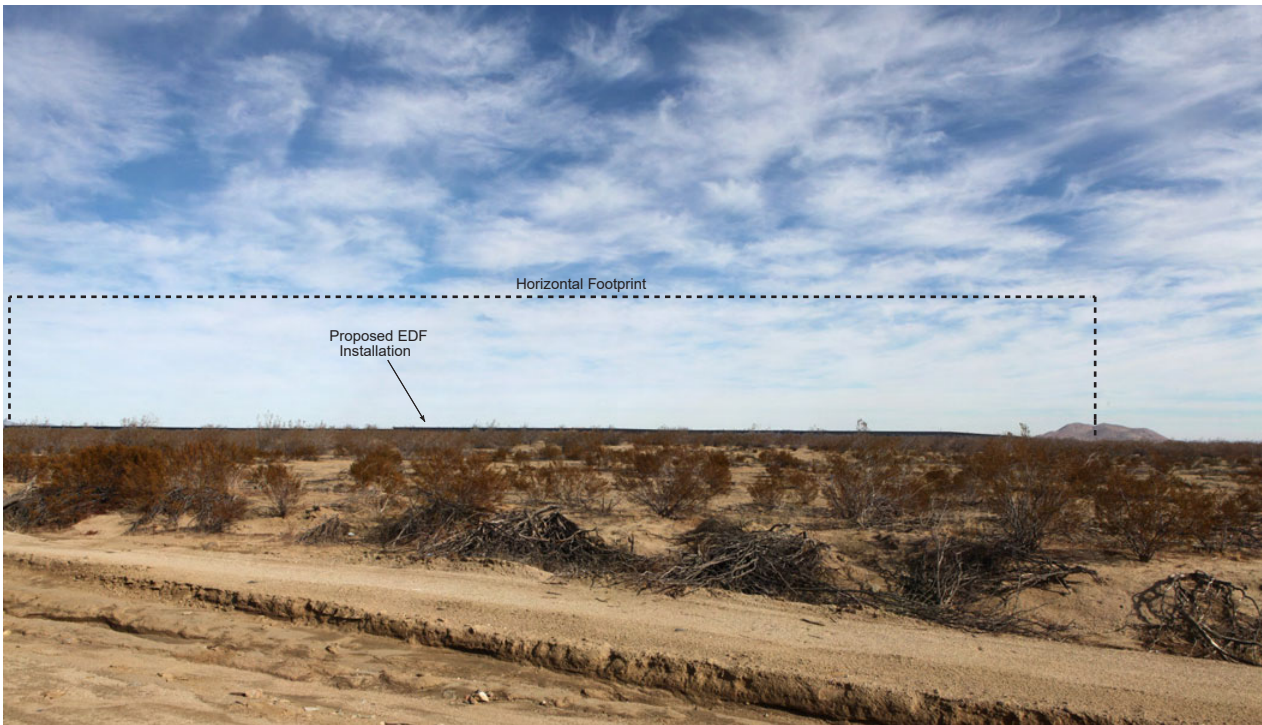
KOP 5. Figure 4.1-6, *Existing and Simulated Views from the Pacific Crest Trail Looking East Toward the Project*, shows the views from the PCT looking east toward the project site. This KOP accurately reflects views that individuals travelling west of the project along the PCT would experience. As shown in the simulation for KOP 5, the solar array appears to be a dark-gray color variation that drapes over the terrain behind the wind turbines and slightly contrasts against the browns, greens, and tans of the existing terrain.



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT



Existing View

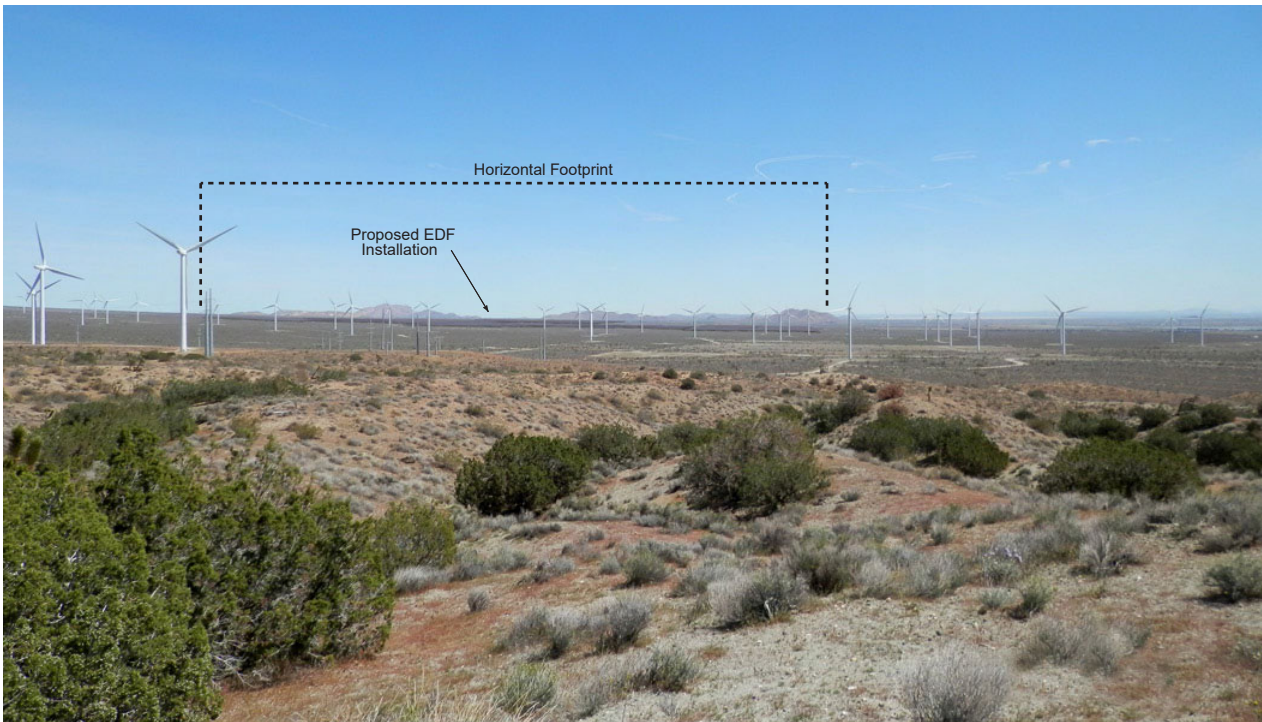


Proposed View

**FIGURE 4.1-5: KOP 4: EXISTING AND SIMULATED VIEWS FROM 140TH STREET WEST
LOOKING NORTHEAST TOWARD THE PROJECT**



Existing View



Proposed View

**Figure 4.1-6: KOP 5: EXISTING AND SIMULATED VIEWS FROM THE PACIFIC CREST TRAIL
LOOKING EAST TOWARD THE PROJECT**

The array has an appearance similar to a fire scar over the ground. Buildings, fencing, access roads, and electrical generation infrastructure are not visible from this distance. They may be visible, however, from locations where the project site is within the middleground of views from Willow Springs Butte. Given these viewpoint alterations, the natural harmony of KOP 5 would be reduced from moderately high to moderate by the proposed project because the arrays would convert a large area from mostly natural conditions to built infrastructure. Similarly, the cultural order would be reduced from moderate to moderately low by the additional visual intrusion created by the solar facility in a viewshed where the natural landscape is already dominated by wind turbines. In addition, the proposed project would be slightly inconsistent relative to existing conditions because it would convert a site that is in a mostly natural condition to an industrial solar production site, creating an additional focal point in the views. These reductions in natural harmony, cultural order, and project site coherence would affect views but would retain the overall visual quality of KOP 5, which is moderate (ICF, 2019a).

Factors Reducing Visual Impacts

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

- The land is generally flat, minimizing the need for grading.
- The roads in the immediate project areas do not have scenic designations.
- Solar panels, which are the primary feature of the project and would occupy most of the site, would generally be 18 feet in height or less and would therefore not block long-distance views or be visible from beyond a small viewshed.
- Solar panels do not create significant levels of glare as explained further in Impact 4.1-3, below.
- Minimal onsite lighting would be required during operations as explained further in Impact 4.1-3, below. Facilities would not operate at night and no regular nighttime staffing would be required.

Summary

Although the O&M facility, battery containers, towers, substation, and gen-tie line would not be visible to viewers at the locations of the simulated key views, they may be visible from other local roadways and residences near these facilities. In addition, the light-gray chain-link fence could detract from views and create a perceived visual barrier. These features would create visual intrusions in the landscape and detract from views if not properly designed.

Operation of a solar power generation and battery storage facility of this size would introduce new infrastructure and other anthropogenic features; alter the existing visual character of the project's landscape from one that is rural to more industrial in nature; 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 proposed project area where feasible, allowing for a natural screening of project components, and the proposed project would incorporate a 100-foot building set-back for solar arrays, the O&M building, and other project features from the project property lines in areas directly adjacent to residential parcels. However, Mitigation Measures MM 4.1-1 through MM 4.1-3 would help to further 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. With

implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3, impacts to visual character and quality would be reduced, but would remain significant and unavoidable.

Furthermore, a decommissioning plan, as required by Mitigation Measure MM 4.11-1 (see Section 4.11, *Land Use*, of this EIR for full mitigation text) would ensure that project facilities would be decommissioned and removed and the site would be revegetated to pre-construction conditions to support, at a minimum, uses that would be consistent with pre-construction uses.

Mitigation Measures

Kern County

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

1. The project proponent/operator shall clear debris from the project area at least twice per year; this can be done in conjunction with regular panel washing and site maintenance activities.
2. 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.
3. 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.
4. Trash and food items shall be contained in closed secured containers at the end of the day and removed at least once per week to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.

MM 4.1-2: Prior to the issuance of the building permit for the solar facility, the project proponent/operator shall provide evidence for the following:

The project proponent/operator shall identify and submit a proposed color scheme and treatment plan 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. The submitted color scheme and treatment plan shall be reviewed and approved by the Planning Director and the project shall continually comply with the approved plan.

MM 4.1-3: Wherever possible, within the proposed project boundary the natural vegetation shall remain undisturbed. Where disturbance of natural vegetation is necessary that disturbance shall occur in the manner that results in the greatest retention of root balls and native topsoil

with mowing being the preferred and primary method of clearing. All natural vegetation adjacent to the proposed project boundary shall remain in place. Prior to the commencement of project operations and decommissioning, the project proponent/operator shall submit a Landscape Revegetation and Restoration Plan for the project site to the Kern County Planning and Natural Resources Department for review and approval. The plan shall include the measures detailed below.

1. 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 re-vegetate with the existing native seed bank in the top soil where possible to establish revegetation. Areas that contain permanent features such as perimeter roads, maintenance roads or under arrays do not require revegetation.
2. The plan must include but is not limited to: (1) the approved California native seed mix that will be used onsite, (2) a timeline for seeding the site, (3) the details of which areas are to be revegetated, and a clear prohibition of the use of toxic rodenticides.
3. Ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place, as needed to establish re-vegetation. The seed mix or native plants shall be determined through consultation with professionals such as landscape architect(s), horticulturist(s), botanist(s), etc. with local knowledge as shown on submitted resume and shall be approved by the Kern County Planning and Natural Resources Department prior to planting. Phased seeding may be used if a phased construction approach is used (i.e., the entire site need not be seeded all at the same time).
4. Vegetation/ground cover shall be continuously maintained on the site by the project operator.
5. The re-vegetation and restoration of the site shall be monitored annually for a three-year period following restoration activities that occur post-construction and post-decommissioning. Based on annual monitoring visits during these three-year periods, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for the three-year period. Should efforts to revegetate soil prove in the second year to not be successful, re-evaluation of revegetation methods shall be made in consultation with the Kern County Planning and Natural Resources Department and an additional year shall be added to the monitoring program to ensure coverage is achieved. 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.

State Lands Commission

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

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

2. 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.
3. 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.
4. Trash and food items shall be contained in closed secured containers at the end of the day and removed at least once per week to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.

MM 4.1-2: Prior to the issuance of the building permit for the solar facility, the project proponent/operator shall provide evidence for the following:

The project proponent/operator shall identify and submit a proposed color scheme and treatment plan 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. The submitted color scheme and treatment plan shall be reviewed and approved by the Planning Director and the project shall continually comply with the approved plan.

MM 4.1-3: Wherever possible, within the proposed project boundary the natural vegetation shall remain undisturbed. Where disturbance of natural vegetation is necessary that disturbance shall occur in the manner that results in the greatest retention of root balls and native topsoil with mowing being the preferred and primary method of clearing. All natural vegetation adjacent to the proposed project boundary shall remain in place. Prior to the commencement of project operations and decommissioning, the project proponent/operator shall submit a Landscape Revegetation and Restoration Plan for the project site to the Kern County Planning and Natural Resources Department for review and approval. The plan shall include the measures detailed below.

1. 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 re-vegetate with the existing native seed bank in the top soil where possible to establish revegetation. Areas that contain permanent features such as perimeter roads, maintenance roads or under arrays do not require revegetation.
2. The plan must include but is not limited to: (1) the approved California native seed mix that will be used onsite, (2) a timeline for seeding the site, (3) the details of which areas are to be revegetated, and a clear prohibition of the use of toxic rodenticides.
3. Ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place, as needed to establish re-vegetation. The seed mix or native

plants shall be determined through consultation with professionals such as landscape architect(s), horticulturist(s), botanist(s), etc. with local knowledge as shown on submitted resume and shall be approved by the Kern County Planning and Natural Resources Department prior to planting. Phased seeding may be used if a phased construction approach is used (i.e., the entire site need not be seeded all at the same time).

4. Vegetation/ground cover shall be continuously maintained on the site by the project operator.
5. The re-vegetation and restoration of the site shall be monitored annually for a three-year period following restoration activities that occur post-construction and post-decommissioning. Based on annual monitoring visits during these three-year periods, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for the three-year period. Should efforts to revegetate soil prove in the second year to not be successful, re-evaluation of revegetation methods shall be made in consultation with the Kern County Planning and Natural Resources Department and an additional year shall be added to the monitoring program to ensure coverage is achieved. The three-year monitoring program is intended to ensure the site naturally achieves native plant diversity, establishes perennials, and is consistent with conditions prior to implementation of the proposed project, where feasible.

Level of Significance after Mitigation

Kern County

Impacts would be significant and unavoidable.

State Lands Commission

Impacts would be significant and unavoidable.

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

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

Construction

Lighting

Construction of the project would generally occur during daytime hours between 6:00 a.m. and 9:00 p.m. and would continue to no later than 9 p.m. in order to meet the construction schedule. No overnight construction is expected to occur. During evening construction, construction crews would use minimal illumination in order to perform the work safely. All lighting would be directed downward and shielded to

focus illumination on the desired work areas only, and to prevent light spillage onto adjacent properties. During construction, dusk-to-dawn security lighting would be required for the temporary construction staging area, parking area, construction office trailer entries, and site access points. Lighting is not planned for typical construction activities because construction activities would occur primarily during daylight. Per Mitigation Measure MM 4.1-4, any nighttime construction would use lighting designed to provide the minimum illumination needed, thereby minimizing adverse impacts on any nearby residents. As a result, construction of the project would result in less-than-significant impacts to nighttime views.

Glare

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

Operation

Lighting

As described in more detail in Chapter 3, *Project Description*, of this EIR, the project would include security lighting. Permanent motion sensitive, directional security lights would be installed to provide adequate illumination around the substation areas and points of ingress/egress during nighttime hours. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. All lighting would also conform to applicable Kern County Dark Sky Ordinance requirements. Lighting would be used from dusk to dawn once the facilities are operational. Restrictions on light fixture height are also imposed by the ordinance. If improperly designed or oriented, such lighting may result in light trespass that falls outside the boundaries of the site. Under particularly adverse conditions, spillover lighting causes annoyance, discomfort, or loss in visual performance because of its intensity, direction, or source type and visibility. Thus, if designed improperly, lighting provided by the proposed project has the potential to adversely affect nighttime views. To avoid such impacts, the project would be required to implement Mitigation Measure MM 4.1-4, which requires compliance with the Dark Sky Ordinance and for all lighting to be directed downwards and shielded. Following compliance with Mitigation Measure MM 4.1-4, impacts related to lighting would be less than significant during project operation.

Glare

Although solar facility glare potential is much lower than is commonly perceived, solar panels have the potential to create some glare. Although the project may produce glare, it is not expected to cause extreme visual discomfort or impairment of vision for residents because the panels are designed to absorb as much sunlight as possible and, therefore, would have minimal reflectivity. Similarly, and also due to their low reflectivity, the panels would not be expected to cause visual impairment for motorists on area roadways. This is because local motorists would pass well under the angle of refraction (i.e., less than 30 degrees). Effects on eastbound motorists would likely be greatest in the early evening hours, when the sun is at its

lowest arc in the western horizon. Glare would have its greatest impact on westbound travelers in the early morning hours, when the sun is rising in the east. To further reduce glare potential, the project would be required to implement Mitigation Measures MM 4.1-5 and MM 4.1-6, which require the use of non-reflective and non-glare materials when feasible. With implementation of these mitigation measures, impacts would be less than significant.

Mitigation Measures

Kern County

- MM 4.1-4:** 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 4.1-5:** Prior to the issuance of building permits, the project proponent shall demonstrate the solar panels and hardware are designed to minimize glare and spectral highlighting. Emerging technologies shall be used, such as diffusion coatings and nanotechnological innovations, to effectively reduce the refractive index of the solar cells and protective glass. These technological advancements are intended to make the solar panels more efficient with respect to converting incident sunlight into electrical power while also reducing the amount of glare generated by the panels. Specifications of such designs shall be submitted to the Kern County Planning and Natural Resources Department.
- MM 4.1-6:** Prior to the issuance of a building permit, the project operator shall demonstrate that all on-site buildings will utilize nonreflective materials, as approved by the Kern County Planning and Natural Resources.

State Lands Commission

- MM 4.1-4:** Prior to final activation of the solar facility, the project proponent shall demonstrate to Staff that the project site complies with the applicable provisions of the *Dark Skies Ordinance* (Chapter 19.81 of the Kern County Zoning Ordinance), and shall be designed to provide the minimum illumination needed to achieve safety and security objectives. All lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Lenses and bulbs shall not be exposed or extend below the shields.
- MM 4.1-5:** Prior to the issuance of building permits, the project proponent shall demonstrate the solar panels and hardware are designed to minimize glare and spectral highlighting. Emerging technologies shall be used, such as diffusion coatings and nanotechnological innovations, to effectively reduce the refractive index of the solar cells and 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 California State Lands Commission.

MM 4.1-6: Prior to the issuance of a building permit, the project operator shall demonstrate that all on-site buildings will utilize nonreflective materials, as approved by the Kern County Planning and Natural Resources.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

As shown in Table 3-4, *Cumulative Project List*, there are 56 projects in the area including several utility-scale solar and wind energy production facilities. These have the potential to result in cumulative impacts to aesthetics when considered together with the project. Unobstructed views of regional topographical features and undeveloped lands would be less available as acreage is developed with various projects, including solar projects that would contain PV panels and new transmission lines.

As the discussion provided above indicates, the project would result in 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 MM 4.1-1 through MM 4.1-6, the project's contribution to significant impacts associated with visual character in the Antelope Valley would be cumulative significant and unavoidable.

Mitigation Measures

Kern County

Implementation of Mitigation Measures MM 4.1-1 through 4.1-6.

State Lands Commission

Implementation of Mitigation Measures MM 4.1-1 through 4.1-6.

Level of Significance after Mitigation

Kern County

Cumulative impacts would be significant and unavoidable.

State Lands Commission

Cumulative impacts would be significant and unavoidable.

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Section 4.2

Agriculture and Forest Resources

4.2.1 Introduction

This section of the EIR describes the affected environment and regulatory settings for agriculture and forest resources for the project. It also describes the impacts on agricultural and forest resources that would result from the implementation of the project, and includes mitigation measures that would reduce these impacts, where applicable. This section is based, in part, on information provided in the Kern County Agricultural Crop Report (2018) prepared by the Department of Agriculture and Measurement Standards and the BigBeau Solar Project Farmland History Report prepared by ICF, located in Appendix C of this EIR.

4.2.2 Environmental Setting

Regional Setting

Kern County covers approximately 8,163 square miles (5,224,258 acres) including 1,384 square miles (885,957 acres) of harvested agricultural land and approximately 2,889 square miles (1,849,266 acres) of grazing land. According to the 2018 Kern County Agricultural Crop Report, agriculture in Kern County was worth approximately \$7.4 billion in 2018, which is an increase of 3 percent from the 2017 crop value. The top five commodities for 2018 were grapes, almonds, citrus, milk, and pistachios, which made up more than \$4.4 billion (59 percent) of the total value, with the top twenty commodities making up more than 71 percent of the total value (Department of Agriculture and Measurement Standards, 2018).

Kern County is a growing population and like many agricultural based jurisdictions, must balance urbanization and the loss of farmland. As shown in **Table 4.2-1, *Agricultural Land Use Designation Conversions in 2018***, during 2018, approved amendments re-designated 132.18 acres of agriculturally designated lands for non-agricultural uses. These amendments resulted in a total net conversion of 132.18 acres within unincorporated Kern County (Kern County, 2018). (Note: These various farmland designations are defined in Section 4.2.3, *Regulatory Setting*, below).

TABLE 4.2-1: 2014–2016 FARMLAND CONVERSION IN KERN COUNTY

Project/Applicant	Case Number	Document	From Map Code	To Map Code	Acreage Converted
Afinar, Inc. by Bernard Salgado	GPA 5, Map 143-41	KCGP	8.1/2.3	5.7/2.3	-21.18
Highway 58, LLC by EPD Solutions	SPA 2, Map 30	Lost Hills Specific Plan	4.1 (Agriculture)	4.1 (Industrial)	-112
Total Acreage Converted (net)					-132.18
SOURCE: Kern County, 2018.					

According to Kern Economic Development Corporation (KEDC), it is estimated that the total population of Kern County will reach approximately 1,240,496 individuals in 2040 (KEDC, 2019), growing from today's population of approximately 916,464 (DOF, 2019). The anticipated growth in population will most likely decrease the amount of agricultural land in Kern County even further. However, it is important to note, the conversion of agricultural land is affected by numerous factors other than population growth and urban development. Actual production is dependent on commodity prices, water prices and supply, labor, the proximity of processing and distribution facilities, and pest management. Factors such as weather, trade agreements, and labor disputes can also affect decisions regarding what crops are grown and which lands go in and out of production. Most conversion of Prime or Farmland of Statewide Importance agricultural lands is occurring within the planned development footprint of Metropolitan Bakersfield. Very little conversion of the most productive agricultural lands has occurred in outlying areas of the County.

Local Setting

Project Site Designation

The project site is located within both the administrative boundaries of the Kern County General Plan and the Willow Springs Specific Plan. As previously stated in Chapter 3, *Project Description*, the project site is primarily designated for resource and residential use by the aforementioned plans, see **Figure 3-3, General Plan and Land Use Designations** and **Figure 3-4, Existing Zoning**. Additionally, the project is zoned agricultural or estate residential as specified in **Table 3-1, Project Site and Surrounding Land Uses** of Chapter 3, *Project Description*.

While a portion of the project site is located within the boundaries of Agricultural Preserve No. 24, the entire project site is vacant, undeveloped, and does not support agricultural uses, past or present. As depicted in **Figure 4.2-1, Farmland Mapping and Monitoring Program Designations**, the project site is not designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. The California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) 2016 Important Farmland Map, designates the project site as site as "Nonagricultural and Natural Vegetation." Surrounding properties are designated as either: (a) "Nonagricultural and Natural Vegetation", (b) "Urban and Built-up Land", (c) "Rural Residential Land", or (d) "Vacant or Disturbed Land" (DOC, 2016b).

4.2.3 Regulatory Setting

Federal

Farmland Protection Policy Act (7 United States Code [USC] Section 4201)

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It additionally directs federal programs to be compatible with State and local policies for the protection of farmland. Under the FPPA, the term "farmland" includes Prime Farmland, Unique Farmland, and Farmland

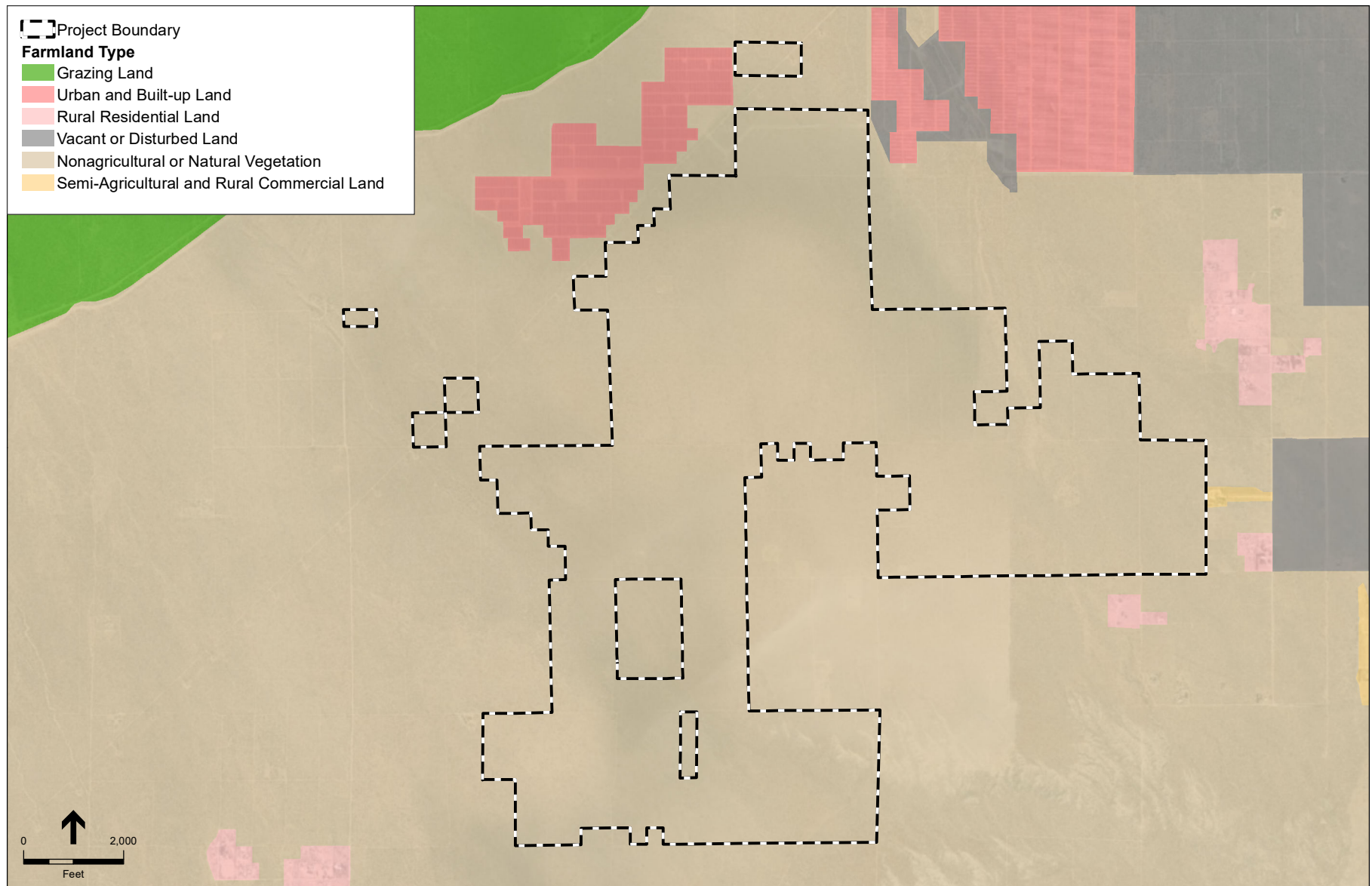


FIGURE 4.2-1: FARMLAND MAPPING AND MONITORING PROGRAM DESIGNATIONS

of Statewide or Local Importance. Farmland that is subject to FPPA requirements does not have to be currently used as cropland. It can be forestland, pastureland, or other land but not urban and built-up land or water. FPPA assures that, to the extent possible, federal programs are administered to be compatible with State, and local units of government, and private programs and policies to protect farmland.

In 1981, Congress passed the Agriculture and Food Act (Public Law 97-98) which contained the FPPA, Subtitle I of Title XV, Section 1539-1549. The final rules and regulations were published in the Federal Register on June 17, 1994. Federal agencies are required to develop and review their policies and procedures related to implementing the FPPA every 2 years.

The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a Federal agency or rely on assistance from a federal agency (Natural Resources Conservation Service [NRCS], 2019).

State

California Department of Conservation (DOC), Division of Land Resource Protection

The DOC applies the NRCS soil classifications to identify agricultural lands. These agricultural designations are used in planning for the present and future of California's agricultural land resources. The DOC uses a minimum mapping unit of 10 acres; parcels that are smaller than 10 acres are absorbed into the surrounding classifications.

The list below describes the categories mapped by the DOC (DOC, 2016b) through the Farmland Mapping and Monitoring Program. 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.

Urban and Built-Up Land. Land that is developed with structures that have been built to a density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land supports residential, industrial, commercial, institutional, public administrative uses; railroad and other transportation yards; cemeteries; airports; golf courses; sanitary landfills; sewage treatment facilities; water control structures; and other developed uses.

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

California Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act (California Government Code Section 51200-51297.4), 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 (DOC, 2019).

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, 2019).

California Government Code Section 51238 states that, unless otherwise decided by a local board or council, the erection, construction, alteration, or maintenance of electric and communication facilities, as well as other facilities, are determined to be compatible uses within any agricultural preserve. Also Section 51238 states that board of supervisors may impose conditions on lands or land uses to be placed within preserves to permit and encourage compatible uses, in conformity with Section 51238.1. Furthermore, under California Government Code Section 51238.1, a board or council may allow any use that without

conditions or mitigations would otherwise be considered incompatible. However, this may occur only if that use meets the following conditions:

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

Farmland Security Zone Act

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

Public Resources Code Section 21060.1

Public Resources Code Section 21060.1 uses the FMMP to define agricultural land for the purposes of assessing environmental impacts. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and analyze the conversion of such lands. The FMMP provides analysis pertaining to agricultural land use changes throughout California.

Local

Kern County General Plan

The Kern County General Plan states that agriculture is vital to the future of Kern County and sets goals to protect important agricultural lands for future use and prevent the conversion of prime agricultural lands to other uses (e.g., industrial or residential). The Kern County General Plan includes four (4) designations for agricultural land:

- **8.1 Intensive Agriculture (minimum parcel size 20 acres gross)** – Lands devoted to the production of irrigated crops or having potential for such use.
Uses shall include, but are not limited to, the following: Irrigated cropland; orchards; vineyards; horse ranches; raising of nursery stock ornamental flowers and Christmas trees; fish farms’ bee keeping’ ranch and farm facilities and related uses; one single-family dwelling unit; cattle feed yards; dairies; dry land farming; livestock grazing; water storage; groundwater recharge acres;

mineral; aggregate; and petroleum exploration and extraction; hunting clubs; wildlife preserves; farm labor housing; public utility uses; and agricultural industries pursuant to provisions of the Kern County Zoning Ordinance, and land within development areas subject to significant physical constraints.

- **8.2 Resource Reserve (minimum parcel size is 20 acres gross, except to a Williamson Act Contract/Farmland Security Zone Contract, in which case the minimum parcel size shall be 80 acres gross)** – Lands devoted to areas of mixed natural resource characteristics including rangeland, woodland, and wildlife habitat which occur in an established County water district.
- **8.3 Extensive Agriculture (minimum parcel size 20 acres gross, except lands subject to a Williamson Act contract/Farmland Security Zone contract, in which case the minimum parcel size shall be 80 acres gross)** – Lands devoted to uses involving large amounts of land with relatively low value-per-acre yields such as livestock grazing, dry-land farming, and woodlands.
- **8.5 Resource Management (minimum parcel size 20 acres gross, except lands subject to a Williamson Act contract/Farmland Security Zone contract, in which case the minimum parcel size shall be 80 acres gross)** – Lands consisting primarily of open space containing important resource values, such as wildlife habitat, scenic values, or watershed recharge areas. These areas may be characterized by physical constraints, or may constitute an important watershed recharge area or wildlife habitat or may have value as a buffer between resource areas and urban areas. Other lands with this resource attribute are undeveloped, non-urban areas that do not warrant additional planning within the foreseeable future because of current population (or anticipated increase), marginal physical development, or no subdivision activity.

Additionally, the designation of 8.5 (Resource Management) can be used for agricultural uses such as dry-land farming and ranch facilities.

The policies, goals, and implementation measures in the Kern County General Plan for agricultural resources applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the proposed project. Therefore, they are not listed below, but as stated in Chapter 2, *Introduction*, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference (Kern County, 2009).

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

1.9 Resource

Goals

- Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.
- Goal 2: Protect areas of important mineral, petroleum, and agricultural resource potential for future use.
- Goal 5: Conserve prime agriculture lands from premature conversion.

Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

Policies

Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of general plan designation.

Policy 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 map produced by the Department of Conservation, which have Class I or II soils and a surface delivery water system shall be conserved through the use of agricultural zoning with minimum parcel size provisions.

Willow Springs Specific Plan

The southern portion of the proposed project site (approximately 1,298 acres) occurs within the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in 1992 and amended in 2008 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 needs of the expanded Willow Springs area. The purpose of the Willow Springs Specific Plan is to define the planning requirements of a designated area to ensure orderly development (Kern County 2008).

The Willow Springs Specific Plan includes the following policies related to agriculture and forest resources:

Resource Element

Goals

Goal 3 Encourage retention of productive agricultural and dormant mineral resources by imposing a restriction on allowing urban type land uses on nearby adjacent lands.

Policies

Policy 1 Provide a method encouraging the preservation of agricultural land

Policy 18 Initial development within the Update area shall, when possible, be directed towards previously impacted areas (i.e., agricultural fields).

Kern County Zoning Ordinance

The Kern County Zoning Ordinance establishes basic regulations under which land is developed. This includes allowable uses, building setback requirements, and development standards. Pursuant to state law, the zoning ordinance must be consistent with the Kern County General Plan. The basic intent of the Kern County Zoning Ordinance is to promote and protect the public health, safety, and welfare via the orderly regulation of the land uses throughout the unincorporated area of the county. The zoning ordinance applies to all property in unincorporated Kern County, except land owned by the United States or any of its agencies.

As previously mentioned in Chapter 3, *Project Description*, and as described in 4.2.2, *Local Setting*, the Kern County Zoning Ordinance designates the majority of the project site for agricultural and residential uses, with the remaining portions of the site within the Willow Springs Specific Plan boundary identified as residential.

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 by reviewing the *Kern County Agricultural Crop Report* (2018), the 2016 DOC Important Farmland Map, the DOC 2014–2016 Farmland Conversion, and the BigBeau Solar Project Farmland History Report prepared by ICF, located in Appendix C of this EIR. A change in land use would normally be determined to be significant if the effects described in the thresholds of significance were to occur (see CCR Title 14, Section 15064.7(a)). The evaluation of project impacts is based on a thorough analysis of the Kern County General Plan's applicable goals and policies related to agricultural resources, professional judgment, and the significance criteria established by CEQA.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify, per Appendix G of the CEQA Guidelines, that a project would have a significant impact on agriculture and forest resources if it would:

- a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use;
- b. Conflict with existing zoning for agricultural use or Williamson Act Contract;
- c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104 (g)).
- d. Result in the loss of forestland or conversion of forest land to non-forest use.
- e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use; or
- f. Result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code).

Kern County determined in the 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:

- c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104 (g)).
- d. Result in the loss of forestland or conversion of forest land to non-forest use.
- e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use.
- f. Result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code).

As detailed in the IS/NOP, 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 Contract for any parcel of 100 or more acres (Public Resources Code Section 15206(b)(3)). The closest Williamson Act land is located approximately 0.5-miles from the project site. Additionally, as discussed in Section 4.10, *Hydrology and Water Quality*, the project site is located within the Antelope Valley Groundwater Basin, most of which has been over drafted and is currently an

adjudicated area for groundwater management, which limits the availability of water for farming purposes. 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 forest land, timberland, or lands zoned for timberland production. Thus, there would be no impacts related to loss of forest land or timberland, or the conversion of forest land 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 Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.

The project would not directly or indirectly impact farmland. The project site is vacant, undeveloped, and does not support agricultural uses, past or present. There is no designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the project area. The California DOC Farmland Mapping and Monitoring Program (FMMP) 2016 Important Farmland Map, designates the project site as “Nonagricultural and Natural Vegetation”. Surrounding properties are designated as either: (a) “Nonagricultural and Natural Vegetation”, (b) “Urban and Built-up Land”, (c) “Rural Residential Land”, or (d) “Vacant or Disturbed Land” (DOC, 2016b). As such, the project is not considered to be prime, unique, or important farmland. Construction and/or operation of the project is not anticipated to result in the conversion of designated Farmland to a nonagricultural use as the site is FMMP designated as “Nonagricultural and Natural Vegetation” and therefore impacts would be less than significant.

Mitigation Measures

Kern County

No mitigation would be required.

State Lands Commission

No mitigation would be required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Impact 4.2-2: The project would conflict with existing zoning for agricultural use or Williamson Act Contract.

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 (DOC, 2013). The closest Williamson Act land is located approximately 0.5-miles from the project site. As depicted in **Figure 4.2-1, *Farmland Mapping and Monitoring Program Designations***, the nearest land designated for grazing, is located approximately 0.6-miles northwest of the project site. Historic land uses in the vicinity of the project included livestock grazing, mining and open space activities such as off road vehicle use. Although the site is agriculturally zoned, the property has not been actively farmed. In addition, 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. Records indicate that the groundwater basin underlying the project site has been in a state of overdraft for over 50 years. In 2011, Superior Court Judge Jack Komar issued an official decision that the basin is in a state of overdraft and that the safe yield of this basin is 110,000 AFY. This amount accounts for imported water that is used to recharge the basin in addition to natural recharge from infiltration of precipitation and snowmelt. The judgment requires the Watermaster engineer (currently Todd Engineers) to monitor components of the total safe yield in the basin and to present those data sets to the court in an annual report (Todd Groundwater 2019). Although the basin as a whole is still in an overdraft condition, the project site is located in the western portion of the basin in the Willow Springs subbasin, where groundwater levels are stabilizing or even possibly rising (Todd Groundwater, 2019). According to the 2018 Annual Report, the amount of groundwater in storage for the Basin as a whole was calculated to have increased by 1,312 AF from 2018 to 2019; 10,710 acre-feet (AF) from 2017 to 2018; and 53,761 AF from 2016 to 2017 (Todd Groundwater 2019).

Given the fact that the site has not been agriculturally farmed, is unlikely to be farmed in the future due to water availability and is generally surrounded by other renewable energy facilities, implementation of this project is not expected to conflict with existing agricultural use. Therefore, impacts would be less than significant.

Mitigation Measures

Kern County

No mitigation would be required.

State Lands Commission

No mitigation would be required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for cumulative agricultural and forest impacts is considered the Antelope Valley. This geographic scope was selected because the land within the region possesses relatively similar agricultural opportunities, soil conditions, climate, and water availability. As shown in Table 3-4, *Cumulative Projects List*, of Chapter 3, *Project Description*, there are approximately 56 solar and non-solar projects proposed or approved throughout the Antelope Valley in Kern County and in the desert portion of Kern County outside the Antelope Valley. Of the approximately 56 total projects in Kern County, 43 would be located within 6 miles of the project site and 13 would be located within 1 mile of the project site.

Of the approximately 56 total projects throughout the Antelope Valley in Kern County, 10 would be located in grazing land and one would be located on Prime farmland and may contribute to a loss of farmland.

Although the project would develop a solar facility on land zoned for agricultural uses, the proposed project would not result in the loss of farmland as the project site does not support agricultural uses, past or present. 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 distant areas within the Antelope Valley. Therefore, the proposed project's contribution to cumulative impacts related to agriculture in Kern County would be less than cumulatively considerable.

Mitigation Measures**Kern County**

No mitigation would be required.

State Lands Commission

No mitigation would be required.

Level of Significance**Kern County**

Cumulative impacts would be less than significant.

State Lands Commission

Cumulative impacts would be less than significant.

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4.3.1 Introduction

This section of the EIR describes the affected environment and regulatory setting of the project and evaluates the short- and long-term air quality impacts associated with development of the site. Further, this analysis describes the affected environment and regulatory setting for air quality. Where necessary, mitigation measures are included to avoid or lessen the impacts of the proposed project.

Information in this section is based primarily on the *Final Air Quality Technical Report* (Air Quality Report) (ICF 2019), which was prepared by ICF, located in Appendix D of this EIR. The report was prepared in accordance with the Kern County Planning Department's Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (Kern County 2006) and Eastern Kern Air Pollution Control District's (EKAPCD) Guidelines for Implementation of the California Environmental Quality Act (CEQA) (EKAPCD 1999). Additionally, information pertaining to potential health risk impacts resulting from the project's construction and operational activities is provided within the Air Quality Report, included in Appendix D 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 northwestern portion of the Mojave Desert Air Basin (MDAB) and is under the jurisdiction of 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.

Topography and Meteorology

Air pollution, especially the dispersion of air pollutants, is directly related to a region's topographic features. Air quality is a function of both the rate and location of pollutant emissions and the meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, which affects ambient air quality.

The project is located generally west of the unincorporated community of Willow Springs, in southcentral Kern County. In particular, the project is located approximately 38 miles southeast of the City of Bakersfield, 13 miles south of the City of Tehachapi, and 1.9 miles northwest of the unincorporated community of Rosamond. The project site is located approximately 9 miles west of State Route 14 (SR-14) (Antelope Valley Freeway). The project site is generally bounded by Avenue of the Stars to the south, the intersection of 125th street and Champagne Avenue to the north, and 135th Street West to the west, and

105th Street West to the east. Desert vegetation dominates the project site and region. The project is located on privately-owned land and includes one parcel owned by the States Lands Commission. Topography across the project site is relatively flat as the site is located south of the Tehachapi Mountains on lands that gradually slope downward from the northwest to the southeast.

The MDAB is characterized by hot summers, cold winters, large diurnal ranges in temperature, low relative humidity, and irregular rainfall. The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest, due to the proximity of the MDAB to the Pacific Ocean 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 approximately 10,000 feet above mean sea level [amsl]), the passes of which form the main channels for these air masses.

During the summer, the MDAB is generally influenced by a Pacific subtropical high pressure cell that sits off the coast to the west, 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 they reach the desert. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south. Average temperatures recently recorded in the nearby City of Lancaster in Eastern Kern County range from a low of 29 degrees Fahrenheit (°F) in December to highs of 95°F in July. Annual rainfall averages approximately 5.1 inches per year. The MDAB averages between 3 and 7 inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, which indicates at least three months have maximum average temperatures over 100.4°F.

Sensitive Receptors

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

The project is located on approximately 2,125 acres of undeveloped, privately-owned land and one 160 acre parcel owned by the California State Lands Commission in the western edge of the Antelope Valley and is zoned primarily for agricultural or estate residential uses. Existing development in the project vicinity includes rural access roads, scattered rural residences, producing and non-producing water wells, off-highway vehicle use, cattle ranching and maintenance facilities, mining, wind and solar energy projects, transmission lines and met towers. Land uses surrounding the project site currently include sparsely distributed residential dwellings on all sides and solar projects to the immediate north, west and farther south, beyond Rosamond Boulevard. While some of the residential properties abut the project site, the

dwelling structures are generally farther away beyond the project site boundaries. As a note, a residential structure was previously located on the project site, but has been demolished.

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 (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM) (specifically PM₁₀ and PM_{2.5}), and lead. 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]). California has also established CAAQS for sulfates, hydrogen sulfide, and vinyl chloride; 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.

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.”

As shown in **Table 4.3-1**, in the southern portion of the EKAPCD, where the project is located, is currently classified as nonattainment for the California 1-hour and 8-hour ozone standards and PM₁₀ standards, and as serious nonattainment for the national 8-hour ozone, and as attainment and/or unclassified for the California and national standards of all of the other criteria pollutants (EKAPCD 2018).

TABLE 4.3-1: NATIONAL AND STATE CRITERIA POLLUTANT STANDARDS AND EKAPCD ATTAINMENT STATUS

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Primary	Attainment Status
Ozone (O ₃)	1-hour	0.09 ppm	Non-Attainment	—	Attainment
	8-hour	0.070 ppm		0.070 ppm	Nonattainment
Particulate Matter (PM ₁₀)	AAM	20 µg/m ³	Nonattainment	—	Attainment
	24-hour	50 µg/m ³		150 µg/m ³	Maintenance
Fine Particulate Matter (PM _{2.5})	AAM	12 µg/m ³	Unclassified	12.0 µg/m ³	Unclassified/Attainment
	24-hour	No Standard		35 µg/m ³	
Carbon Monoxide (CO)	1-hour	20 ppm	Unclassified	35 ppm	Unclassified/Attainment
	8-hour	9.0 ppm		9 ppm	
Nitrogen Dioxide (NO ₂)	AAM	0.030 ppm	Attainment	0.053 ppm	Unclassified
	1-hour	0.18 ppm		0.100 ppm	
Sulfur Dioxide (SO ₂)	AAM	—	Attainment	0.030 ppm	Unclassified
	24-hour	0.04 ppm		0.14 ppm	
	3-hour	—		—	
	1-hour	0.25 ppm		0.075 ppm	
Lead	30-day Average	1.5 µg/m ³	Attainment	—	Unclassified/Attainment
	Calendar Quarter	—		1.5 µg/m ³	
	Rolling 3-Month Average	—		0.15 µg/m ³	
Sulfates	24-hour	25 µg/m ³	Attainment	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m ³)	Unclassified		
Vinyl Chloride	24-hour	0.01 ppm (42 µg/m ³)	Unclassified		
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		

AAM = annual arithmetic mean; ppm = parts per million; µg/m³ = micrograms per cubic meter

SOURCES: CARB 2016; EKAPCD 2018.

Local Air Quality

To assess local air quality impacts, the significance thresholds are based on the State carbon monoxide (CO) standards, shown previously in Table 4.3-1, 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 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.

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 Mojave-Poole Street (Kern County) and Victorville-Park Avenue (San Bernardino County) sites are the closest stations to the project site, approximately 13.5 and 63 miles away, respectively. The Mojave site monitors ambient concentrations of O₃, PM₁₀, and PM_{2.5}, while the Victorville-Park Avenue site monitors those pollutants in addition to CO, NO₂, and SO₂. Due to its proximity to the project site, the Mojave station data is used to summarize ambient concentrations of O₃, PM₁₀, and PM_{2.5} near the project site, while Victorville data is used to summarize ambient concentrations of CO, NO₂, and SO₂. 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 4.3-1, *National and State Criteria Pollutant Standards and EKAPCD Attainment Status*.

Ozone (O₃)

Ozone occurs in two layers of the atmosphere, the troposphere and the stratosphere. The layer surrounding the earth's surface is the troposphere, where “bad” ozone acts as an air pollutant that damages human health, vegetation, and many common materials. It is a key ingredient of urban smog. The troposphere extends to a level about 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric or “good” ozone layer extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays (UV-B).

TABLE 4.3-2: AIR QUALITY DATA SUMMARY (2016–2018)

Pollutant	Monitoring Year		
	2016	2017	2018
Ozone (O₃)^a			
Maximum concentration (1-hour/8-hour average)	0.104/0.093	0.097/0.086	0.111/0.095
Number of days state/national 1-hour standard exceeded	2/0	1/0	8/0
Number of days state/national 8-hour standard exceeded	52/60	35/37	53/56
Nitrogen Dioxide (NO₂)^b			
Maximum concentration (1-hour average)	0.097	0.057	0.051
Annual average (state)	0.010	0.012	0.011
Number of days state/national standard exceeded	0/0	0/0	0/0
Suspended Particulate Matter (PM_{2.5})^a			
Maximum concentration (24-hour)	25.7	26.9	39.0
Annual Average (national/state)	7.4	5.5	7.1
Number of days national standard exceeded (measured/calculated) ^c	0/0.0	0/0.0	0/0.0
Suspended Particulate Matter (PM₁₀)^a			
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) ^c	18/0	10/0	19/0
Number of days national standard exceeded (measured/calculated) ^c	0/0	0/0	0/0
Carbon Monoxide (CO)			
Maximum concentration (8-hour average)	2.6	1.2	1.1
Number of days state/national 8-hour standard exceeded	0/0	0/0	0/0
Sulfur Dioxide (SO₂)			
Maximum concentration (24-hour)	5.7	28.3	9.9
Annual Average	0.58	0.73	1.12
Number of days state standard exceeded	0	0	0

ppm = parts per million by volume, µg/m³ = micrograms per cubic meter, NA=Not Available

^a Based on ambient concentrations obtained from the Mohave-923 Poole Street Monitoring Station.

^b Based on ambient concentrations obtained from the Lancaster-43301 Division Street Monitoring Station.

^c 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.

SOURCE: CARB 2019a, USEPA 2019.

“Bad” ozone is what is known as a photochemical pollutant, which needs the combination of reactive organic gas (ROG) and oxides of nitrogen (NO_x), in the presence of sunlight to form. ROG and NO_x are

emitted from various sources throughout Kern County. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors.

Ozone is a regional air pollutant, which is generated over a large area and transported and spread by the wind. As the primary constituent of smog, ozone is the most complex, difficult to control, and pervasive of the criteria pollutants. Unlike other pollutants, it is not emitted directly into the air by specific sources but is created by sunlight acting on other air pollutants (the precursors), specifically NO_x and ROG. Sources of precursor gases number in the thousands and include common sources such as consumer products, gasoline vapors, chemical solvents, and combustion byproducts of various fuels. Originating from gas stations, motor vehicles, large industrial facilities, and small businesses such as bakeries and dry cleaners, the ozone-forming chemical reactions often take place in another location, catalyzed by sunlight and heat. Thus, high ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

Health Effects

While ozone in the upper atmosphere protects the earth from UV-B, high concentrations of ground-level ozone can adversely affect the human respiratory system. Many respiratory ailments, as well as cardiovascular diseases, are aggravated by exposure to high ozone levels.

Ozone is a powerful oxidant—it can be compared to household bleach, which can kill living cells (such as germs or human skin cells) upon contact. Ozone can damage the respiratory tract, causing inflammation and irritation, and it can induce symptoms such as coughing, chest tightness, shortness of breath, and worsening of asthmatic symptoms. Ozone in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. Exposure to levels of ozone above the current ambient air quality standard leads to lung inflammation, lung tissue damage, and a reduction in the amount of air inhaled into the lungs. Health effects include potential increased susceptibility to respiratory infections and reduced ability to exercise. Health effects are more severe in people with asthma and other respiratory ailments. People who work or play outdoors are at a greater risk for harmful health effects from ozone. Children and adolescents are also at greater risk because they are more likely than adults to spend time engaged in vigorous activities. Research indicates that children under 12 years of age spend nearly twice as much time outdoors daily than adults. Teenagers spend at least twice as much time as adults in active sports and outdoor activities. Also, children inhale more air per pound of body weight than adults, and they breathe more rapidly than adults. Children are less likely than adults to notice their own symptoms and avoid harmful exposures. Elevated ozone concentrations also reduce crop and timber yields, damage native plants, and damage materials such as rubber, paints, fabric, and plastics (CARB and American Lung Association of California 2007).

Reactive Organic Gases (ROGs) and Volatile Organic Compounds (VOCs)

Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including 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 the 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 (CO)

Carbon monoxide (CO) is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is an odorless, colorless, poisonous gas that is highly reactive. CO is a byproduct of motor vehicle exhaust, which contributes more than 66 percent of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic congestion. Other sources of CO emissions include industrial processes and fuel combustion in sources such as boilers and incinerators. Despite an overall downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

Health Effects

When inhaled, CO enters the bloodstream and binds more readily to hemoglobin, the oxygen-carrying protein in blood, than oxygen, thereby reducing the oxygen-carrying capacity of blood and reducing oxygen delivery to organs and tissues. The health threat from CO is most serious for those who suffer from cardiovascular disease. Healthy individuals are also affected but only at higher levels of exposure. Exposure to CO can cause chest pain in heart patients, headaches, and reduced mental alertness. At high concentrations, CO can cause heart difficulties in people with chronic diseases and can impair mental abilities. Exposure to elevated CO levels is associated with visual impairment, reduced work capacity, reduced manual dexterity, poor learning ability, difficulty performing complex tasks, and, with prolonged enclosed exposure, death.

The adverse health effects associated with exposure to ambient and indoor concentrations of CO are related to the concentration of carboxyhemoglobin in the blood. Exposure to elevated concentrations of CO weaken the heart's contractions and lower the amount of oxygen carried by the blood. Health effects observed may include an early onset of cardiovascular disease; behavioral impairment; decreased exercise performance of young, healthy men; reduced birth weight; sudden infant death syndrome; and increased daily mortality rate (Fierro et al. 2001).

Oxides of Nitrogen (NO_x)

Oxides of nitrogen (NO_x) are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone and react in the atmosphere to form acid rain. NO_x is emitted from solvents and combustion processes in which fuel is burned at high temperatures, principally motor vehicle exhaust and stationary sources such as electric utilities and industrial boilers. In terms of NO_x emissions, the two principal species of NO_x are nitric oxide (NO) and nitrogen dioxide (NO₂), with the vast majority (95 percent) of the NO_x emissions being comprised of NO. NO is converted to NO₂ by several processes, the two most important of these are: (1) the reaction of NO with ozone; and (2) the photochemical reaction of NO with hydrocarbons. A brownish gas, NO_x is a strong oxidizing agent that reacts in the air to form corrosive nitric acid as well as toxic organic nitrates.

Health Effects

NO_x is an ozone precursor that combines with ROG to form ozone. See the ozone section above for a discussion of the health effects of ozone. Direct inhalation of NO_x can cause a wide range of health effects. Health effects of NO_x include irritation of the lungs, lung damage, and lowered resistance to respiratory infections such as influenza. Short-term exposures (e.g., less than 3 hours) to low levels of NO₂ may lead to changes in airway responsiveness and lung function in individuals with pre-existing respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposures to NO₂ may lead to increased susceptibility to respiratory infection and may cause irreversible lung damage. Other health effects associated with NO₂ are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO₂ may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. Clinical studies of human subjects suggest that NO₂ 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 NO₂ concentrations and daily mortality from respiratory and cardiovascular causes as well as hospital admissions for respiratory conditions.

NO_x contributes to a wide range of environmental effects both directly and indirectly when combined with other precursors in acid rain and ozone. NO_x can cause fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to the production of particulate nitrates. Airborne NO_x can also impair visibility. Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems such as those found in estuarine and coastal waters can lead to eutrophication (a condition that promotes excessive algae growth, which can lead to a severe depletion of dissolved oxygen and increased levels of toxins harmful to aquatic life). Nitrogen, alone or in acid rain, also can acidify soils and surface waters. Acidification of soils causes the loss of essential plant nutrients and increased levels of soluble aluminum, which is toxic to plants. Acidification of surface waters creates conditions of low pH and levels of aluminum that are toxic to fish and other aquatic organisms. NO_x also contributes to visibility impairment (California Air Pollution Control Officers Association [CAPCOA] 2016).

Sulfur Dioxide (SO₂)

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 (SO₂) during the combustion process and subsequently converted to sulfate compounds in the

atmosphere. The conversion of SO₂ to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

SO₂ is a colorless, irritating gas with a “rotten egg” smell that is formed primarily by the combustion of sulfur-containing fossil fuels. Historically, SO₂ was a pollutant of concern in Kern County, but with the successful implementation of regulations, levels have been reduced significantly.

Health Effects

High concentrations of SO₂ can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Health effects from exposure to emissions of SO₂ 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 SO₂ 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 SO₂, in conjunction with high levels of particulate matter, include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs’ defenses. SO₂ also is a major precursor to particulate matter that is 2.5 microns or less (PM_{2.5}), which is a significant health concern and a main contributor to poor visibility (see also the discussion of health effects of particulate matter).

SO₂ 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. SO₂ 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).

SO₂ 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 SO₂ and acid aerosols; and

- Subjective symptoms, such as headaches and nausea, in the absence of pathological abnormalities due to long-term exposure.

SO₂ 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 SO₂ concentrations accelerate the corrosion of metals, probably through the formation of acids. SO₂ is a major precursor to acidic deposition. Sulfur oxides may also damage stone and masonry, paint, various fibers, paper, leather, and electrical components.

Increased SO₂ also contributes to impaired visibility. Particulate sulfate, much of which is derived from SO₂ emissions, is a major component of the complex total suspended particulate mixture.

Particulate Matter (PM₁₀ and PM_{2.5})

Particulate matter (PM) pollution consists of very small liquid and solid particles floating in the air. Some particles are large and dark enough to be seen as soot or smoke. Others are so small they can be detected only with an electron microscope. PM is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals. PM also forms when gases emitted from motor vehicles and industrial sources undergo chemical reactions in the atmosphere. PM or airborne dusts are the small particles that remain suspended in the air for long periods of time. Particulates of concern are those that are 10 microns or less in diameter (PM₁₀) and 2.5 microns or less in diameter (PM_{2.5}). Thus, PM_{2.5} is a subset of PM₁₀. PM₁₀ and PM_{2.5} are small enough to be inhaled, pass through the respiratory system and lodge in the lungs, possibly leading to adverse health effects.

The composition of PM₁₀ and PM_{2.5} can vary greatly with time, location, the sources of the material and meteorological conditions. Dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes are the main components of PM₁₀ and PM_{2.5}. In addition to those listed previously, secondary particles can also be formed as precipitates from photochemical reactions of gaseous SO₂ and NO_x in the atmosphere to create sulfates (SO₄) and nitrates (NO₃), respectively. Secondary particles are of greatest concern during the winter months when low inversion layers tend to trap the precursors of secondary particulates.

In the western U.S., there are sources of PM₁₀ in both urban and rural areas. PM₁₀ and PM_{2.5} are emitted from stationary and mobile sources, including diesel trucks and other motor vehicles; power plants; industrial processes; wood-burning stoves and fireplaces; wildfires; dust from roads, construction, landfills, and agriculture; and fugitive windblown dust. Because particles originate from a variety of sources, their chemical and physical compositions vary widely.

Health Effects

PM₁₀ and PM_{2.5} particles are small enough—about one-seventh the thickness of a human hair or smaller—to be inhaled and lodged in the deepest parts of the lung where they evade the respiratory system's natural defenses and can be trapped in the nose, throat, and upper respiratory tract. Health effects from exposure to PM₁₀ and PM_{2.5} begin as the body reacts to these foreign particles. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases; heart and lung disease; and coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. PM₁₀ and PM_{2.5} can aggravate respiratory disease and cause lung damage, cancer, and premature death. Sensitive populations, including children, the elderly, exercising adults, and those suffering from chronic lung disease such as asthma or bronchitis, are especially vulnerable to the effect of

PM₁₀. Of greatest concern are recent studies that link PM₁₀ exposure to the premature death of people who already have heart and lung disease, especially the elderly. Acidic PM₁₀ can also damage man-made 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 (Dockery and Pope 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 causes about 250 excess cancer cases per year in California (County of Kern 2006).

Sulfates

Sulfates (SO₄²⁻) are particulate product that comes from the combustion of sulfur-containing fossil fuels. When sulfur monoxide or SO₂ is exposed to oxygen, it precipitates out into sulfates (SO₃ or SO₄).

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 SO₂ during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO₂ to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

Health Effects

CARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in oxygen intake, aggravation of asthmatic

symptoms, and an increased risk of cardio-pulmonary disease. When acidic pollutants and particulates are also present, SO₂ tends to have an even more toxic effect. In addition to particulates, SO₃ and SO₄ are also precursors to acid rain. SO_x and NO_x are the leading precursors to acid rain. Acid rain can lead to corrosion of man-made structures and cause acidification of water bodies. Sulfates are particularly effective in degrading visibility and, because they are usually acidic, can harm ecosystems and damage materials and property (CARB 2009).

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. 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 (EPA, 2012b).

This highly toxic metal has been used for many years in everyday products, and has been found to cause a range of health effects, from behavioral problems and learning disabilities, to seizures and death. Effects on the nervous systems of children are one of the primary health risk concerns from lead. In high concentrations, children can even suffer irreversible brain damage and death. Children six years old and under are most at risk, because their bodies are growing quickly.

If not detected early, children with high levels of lead in their bodies can suffer from:

- Damage to the brain and nervous system;
- Behavior and learning problems (such as hyperactivity);
- Slowed growth;
- Hearing problems; and
- Headaches.

Lead is also harmful to adults. Adults can suffer from:

- Difficulties during pregnancy;
- Other reproductive problems (in both men and women);
- High blood pressure;
- Digestive problems;

Nerve disorders;
Memory and concentration problems; and
Muscle and joint pain.

Since the 1980s, lead has been phased out in gasoline, reduced in drinking water, reduced in industrial air pollution, and banned or limited in consumer products.

Other Pollutants

Hydrogen Sulfide

Hydrogen sulfide (H_2S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. H_2S in the atmosphere would likely oxidize into SO_2 that can lead to acid rain. At low concentrations H_2S , which has a characteristic “rotten egg” smell, may cause irritation to the eyes, mucous membranes and respiratory system, dizziness and headaches. In high concentrations (800 ppm can cause death) hydrogen sulfide is extremely hazardous, especially in enclosed spaces. Occupational Safety and Health Administrations (OSHA) has the primary responsibility for regulating workplace exposure to H_2S .

Health Effects

Exposure to low concentrations of H_2S may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Exposure to higher concentrations (above 100 ppm) can cause olfactory fatigue, respiratory paralysis, and death. Brief exposures to high concentrations of H_2S (greater than 500 ppm) can cause a loss of consciousness. In most cases, the person appears to regain consciousness without any other effects. However, in many individuals, there may be permanent or long-term effects such as headaches, poor attention span, poor memory, and poor motor function. No health effects have been found in humans exposed to typical environmental concentrations of H_2S (0.00011–0.00033 ppm). Deaths due to breathing in large amounts of H_2S have been reported in a variety of different work settings, including sewers, animal processing plants, waste dumps, sludge plants, oil and gas well drilling sites, and tanks and cesspools.

Vinyl Chloride

Vinyl chloride monomer is a sweet-smelling, colorless gas at ambient temperature. Landfills, publicly owned treatment works, and polyvinyl chloride (PVC) production are the major identified sources of vinyl chloride emissions in California. PVC can be fabricated into several products, such as PVC pipes, pipe fittings, and plastics.

Health Effects

In humans, epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of liver angiosarcoma, which is a rare cancer, and have suggested a relationship between exposure cancers of the lung and brain. There are currently no adopted ambient air standards for vinyl chloride.

Short-term exposure to vinyl chloride has been linked with the following acute health effects (EPA, 2000):

Acute exposure of humans to high levels of vinyl chloride via inhalation in humans has resulted in effects on the central nervous system, such as dizziness, drowsiness, headaches, and giddiness.

Vinyl chloride is reported to be slightly irritating to the eyes and respiratory tract in humans. Acute exposure to extremely high levels of vinyl chloride has caused loss of consciousness; irritation to the lungs and kidneys; inhibition of blood clotting in humans; and cardiac arrhythmias in animals.

Tests involving acute exposure of mice to vinyl chloride have shown high acute toxicity from inhalation exposure to the substance.

Long-term exposure to vinyl chloride concentrations has been linked with the following chronic health effects (EPA, 2000):

Liver damage may result in humans from chronic exposure to vinyl chloride, through both inhalation and oral exposure.

A small percentage of individuals occupationally exposed to high levels of vinyl chloride in air have developed a set of symptoms termed “vinyl chloride disease,” which is characterized by Raynaud’s phenomenon (fingers blanch and numbness and discomfort are experienced upon exposure to the cold), changes in the bones at the end of the fingers, joint and muscle pain, and scleroderma-like skin changes (thickening of the skin, decreased elasticity, and slight edema).

Central nervous system effects (including dizziness, drowsiness, fatigue, headache, visual and/or hearing disturbances, memory loss, and sleep disturbances) as well as peripheral nervous system symptoms (peripheral neuropathy, tingling, numbness, weakness, and pain in fingers) have also been reported in workers exposed to vinyl chloride.

Several reproductive/developmental health effects from vinyl chloride exposure have been identified (EPA, 2000):

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

Toxic air contaminants (TACs), as known under the California Clean Air Act of 1988 (CCAA), are 10 pollutants have been identified through ambient air quality data as posing the most substantial health risk in California. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to brain and nervous system and respiratory disorders. CARB provides TAC emission inventories for only the larger air basins.

Sources include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners and motor vehicle exhaust. TACs do not have ambient air quality standards. Since no safe levels of TACs can be determined, there are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The requirements of the Air Toxic "Hot Spots" Information and Assessment Act apply to facilities that use, produce, or emit toxic chemicals. Facilities that are subject to the toxic emission inventory requirements of the Act must prepare and submit toxic emission inventory plans and reports to CARB and periodically update those reports. While TACs do result in potential health risks for those exposed, the project would not emit TACs with the exception of diesel particulate matter, which, therefore, is the only TAC described further in this analysis.

Diesel Particulate Matter

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 2019a). 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 2019a).

Table 4.3-3, *Range 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

Infection Classification	Percent of Total Diagnosed Cases
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 2019b.	

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 (California Department of Conservation 2000).

4.3.3 Regulatory Setting

In California, air quality is regulated by several agencies, including EPA, 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 EPA regulations may not be superseded, some State and local regulations may be more stringent than federal regulations. The project site is located within the MDAB, which is under the jurisdiction of the EKAPCD.

Federal

U.S. Environmental Protection Agency (EPA)

The principal air quality regulatory mechanism on the federal level is the CAA and in particular, the 1990 amendments to the CAA, and the NAAQS that it establishes. These standards identify levels of air quality for “criteria” pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants include ozone, CO, NO₂ (which is a form of NO_x), SO₂ (which is a form of SO_x), PM₁₀, PM_{2.5},

and lead. USEPA also has regulatory and enforcement jurisdiction over emission sources beyond state waters (outer continental shelf), and those that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking. USEPA's primary role at the state level is to oversee the state air quality programs. USEPA sets federal vehicle and stationary source emission standards and oversees approval of all State Implementation Plans (SIP), as well as providing research and guidance in air pollution programs. The SIP is a state-level document that identifies all air pollution control programs within California that are designed to meet the NAAQS.

State

California Air Resources Board (CARB)

CARB, a department of the California Environmental Protection Agency (Cal/EPA), oversees air quality planning and control throughout California by administering the SIP. Its primary responsibility lies in ensuring implementation of the 1989 amendments to the CCAA, responding to the federal CAA requirements and regulating emissions from motor vehicles sold in California. CARB also sets fuel specifications to further reduce vehicular emissions.

The amendments to the CCAA establish the CAAQS, and a legal mandate to achieve these standards by the earliest practical date. These standards apply to the same criteria pollutants as the federal CAA, and also include sulfates, visibility reducing particulates, hydrogen sulfide and vinyl chloride (there are currently no NAAQS for these latter pollutants). They are also generally more stringent than the national standards in most cases, although recently promulgated NAAQS for 1-hour NO₂ and SO₂ 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 ACPD and air quality management districts (AQMDs) in the state ranks the data into high, intermediate and low priority categories. When considering the ranking, the potency, toxicity, quantity, volume and proximity of the facility to receptors are given consideration by an air district.

CARB also has on- and off-road engine emission-reduction programs that would indirectly affect the project's emissions through the phasing in of cleaner on- and off-road engines. Additionally, CARB has a Portable Equipment Registration Program that allows owners or operators of portable engines and associated equipment to register their units under a statewide program to operate their equipment which must meet specified program emission requirements, throughout California without having to obtain individual permits from local air districts. Since the project is not proposing to install any applicable stationary sources, the AB 2588 program would not apply to the project.

In 2007, CARB enacted a regulation for the reduction of DPM and criteria pollutant emissions from in-use off-road diesel-fueled vehicles (13 CCR Article 4.8, Chapter 9, Section 2449). This regulation provides target emission rates for particulate matter and NO_x emissions for owners of fleets of diesel-fueled off-road vehicles. It applies to equipment fleets of three specific sizes, and the target emission rates are reduced over time with full implementation by 2023 for large and medium fleets and 2028 for small fleets.

Title V and Extreme Designation

Title V of the CAA, as amended in 1990, creates an operating permit program for certain defined sources. In general, owner/operators of defined industrial or commercial sources that emit more than 25 tons per year (tpy) of NO_x and ROG must process a Title V permit. In “Extreme Designation” areas, the definition of a major source which requires Title V permitting, changes from 25 tpy to 10 tpy. This change results in more businesses having to comply with Title V permitting requirements under the Extreme nonattainment designation.

Title V does not impose any new air pollution standards, require installation of any new controls on the affected facilities, or require reductions in emissions. Title V does enhance public and EPA participation in the permitting process and requires additional record keeping and reporting by businesses, which results in significant administrative requirements.

California Renewables Portfolio Standard Program

Established in 2002 under SB 1078 and accelerated by SB 107 [2006] and SB 2 [2011], California’s Renewable Portfolio Standard (RPS) obligates investor-owned utilities, energy service providers, and community choice aggregators to procure 33 percent of their electricity from renewable energy sources by 2020. In 2015, SB 350 further increased the Renewables Portfolio Standard to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. The California Public Utilities Commission (CPUC) and the California Energy Commission are jointly responsible for implementing the program. 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 (California Public Utilities Commission 2017). 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.

Local

Kern County General Plan

The goals, policies, and implementation measures in the Kern County General Plan (Kern County 2009) applicable to air quality, as related to the project, are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the project. Therefore, they are not listed below.

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

Air Quality

Policies

Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.

- Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision-making body, as part of its deliberations, will ensure that:
- (1) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and
 - (2) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.
- Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.
- Policy 21: The County shall support air districts efforts to reduce PM₁₀ and PM_{2.5} emissions.
- Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, State, and local standards.

Implementation Measures

- Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.
- Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:
1. Minimizing idling time.
 2. Electrical overnight plug-ins.
- Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:
1. Pave dirt roads within the development.
 2. Pave outside storage areas.
 3. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.
 4. Use of alternative fuel fleet vehicles or hybrid vehicles.
 5. Use of emission control devices on diesel equipment.
 6. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces.
 7. Provide bicycle lockers and shower facilities on site
 8. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).

9. The use and development of park and ride facilities in outlying areas.
10. Other strategies that may be recommended by the local Air Pollution Control Districts.

Measure J: The County should include PM₁₀ control measures as conditions of approval for subdivision maps, site plans, and grading permits.

Chapter 5. Energy Element

Solar Energy Development

Policies

- Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.
- Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

Willow Springs Specific Plan

The southern portion of the project site is located within the Willow Springs Specific Plan (KCPD, 2008). The Willow Springs Specific Plan was adopted in 1992 (most recently revised on April 1, 2008) and includes policies and implementation measures to ensure compatibility of land uses and minimize air quality impacts. The following summarizes the policies and implementations measures from the Willow Springs Specific Plan that are applicable to the project.

Land Use Element

Goal

- Goal 1: The Willow Springs Specific Plan will regulate developments to ensure compatible uses of land consistent with both short- and long-term planning objectives of this Specific Plan area.

Policies

- Policy 2: Encourage only those industries that do not significantly increase air pollution levels.
- Policy 8: New and/or existing developments shall comply with the Kern County Zoning Ordinance and this Specific Plan. Where conflicts appear, the more restrictive requirements shall prevail.
- Policy 10: Require that construction sites be provided with a soil retardant measure approved by the County of Kern (Department of Planning and Development Services and the Environmental Health Services Department) to reduce fugitive dust or blowing sand.
- Policy 11: Retain vegetation until actual construction begins.

Implementation Measures

- Measure 6: All discretionary permits will be required to be consistent with the Kern County Zoning Ordinance and the Willow Springs Specific Plan. Where conflicts appear, the more restrictive requirement shall prevail.
- Measure 8: Every effort shall be made by the developer to control dust during construction activities by sprinkling the site with water or other soil retardants. Additionally, vegetative cover on the site shall be retained until actual construction begins.

Air Quality***Goal***

- Goal 1: Imposition of appropriate mitigation measures to reduce where practical to do so, the effect short-term and long-term projects have on the areas which involve grading activities, erosion controls, revegetation of disturbed sites, and provisions to introduce into the plan are a competitive job market to reduce travel times.

Policy

- Policy 1: Compliance with the Mitigation/Implementation Measures and enactment of an approved Air Quality Attainment Plan.

Implementation Measures

- Measure 1: To mitigate potential dust generation impacts, the Willow Springs Specific Plan Update project shall comply with applicable County regulations (to the satisfaction of the Kern County Air Pollution Control District), which require specific dust control measures.
- Measure 2: During construction, all grading activities shall be ceased during periods of high winds (i.e., greater than 30 mph). To assure compliance with this measure, grading activities are subject to periodic inspections by County staff.
- Measure 3: Construction equipment shall be fitted with the most modern emission control devices and be kept in proper tune. Motors out of proper tune can result in emissions that vastly exceed recommended standards.
- Measure 4: The project applicants shall, to the extent feasible, implement applicable control measures contained in the Attainment Plan in effect at the time of adoption of this Specific Plan, by the Air Pollution Control District in 1991. (See Environmental Impact Report Air Quality for additional recommended mitigation measures, page 162.).
- Measure 7: All phases of the Willow Springs Specific Plan Update project shall comply with applicable rules and regulations of the Kern County Air Pollution Control District.

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 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 onsite watering processes.

- Installation of wind barrier fencing or screening.

- 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.

Eastern Kern Air Pollution Control District

EKAPCD has primary responsibility for regulating stationary sources of air pollution situated within its jurisdictional boundaries. To this end, 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 Mojave Desert portion of Kern County and also established the following rules and regulations to ensure compliance with local, state, and federal air quality regulations:

Rule 201

Rule 201 establishes permitting requirements for stationary sources. Although the project does not involve traditional stationary sources, 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 EKAPCD is requiring a Fugitive Dust Emissions Monitoring Plan through which that each facility install upwind and downwind particulate matter air monitoring. 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, EKAPCD has established required offsets for when the emissions from a source exceed the following trigger levels:

PM₁₀ – 15 tons/year

SO_x (as SO₂) – 27 tons/year

VOCs – 25 tons/year

NO_x (as NO₂) – 25 tons/year

Rule 401

Rule 401 states that a person shall not discharge into the atmosphere, from any single source of emissions whatsoever, any air contaminant from any single emissions source for a period or periods aggregating more than 3 minutes in any one hour which is:

As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or

Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection A [of the Rules].

Rule 402

Rule 402 of the EKAPCD's rules and regulations addresses significant man-made dust sources from active operations. An active operation is defined as "Activity capable of generating fugitive dust, including any open storage pile, earth-moving activity, construction/demolition activity, disturbed surface area, and non-emergency movement of motor vehicles on unpaved roadways and any parking lot served by an unpaved road subject to this Rule." Rule 402 applies to specified bulk storage, earthmoving, construction and demolition, and man-made conditions resulting in wind erosion, and includes the following requirements:

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.

A person shall utilize one or more Reasonably Available Control Measures (RACM) or Bulk Material Control Measures (BMCM) to minimize fugitive dust emissions from each source type that is part of any active operation, including unpaved roadways.

No person shall conduct a large operation without filing for and obtaining an approved fugitive dust emission control plan. Large operation is defined as "Any construction activity on any site

involving 10 or more contiguous acres of disturbed surface area, or any earthmoving activity exceeding a daily volume of 10,000 cubic yards, or relocating more than 2,500 cubic yards per day of bulk materials at least three days per year.”

EKAPCD may require onsite PM₁₀ monitoring for any large operation that causes downwind PM₁₀ ambient concentrations to increase more than 50 micrograms per cubic meter above upwind concentrations as determined by utilizing high-volume particulate matter samplers, or other EPA-approved equivalent method(s).

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

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

Rule 423 adopts the EPA’s National Emissions Standards for Hazardous Air Pollutants by reference, which grants EKAPCD the ability to ensure that all sources of hazardous air pollution would comply with applicable standards, criteria, and requirements set forth in Title 40, Chapter 1, parts 61 and 63, of the Code of Federal Regulations that are in effect as of October 10, 2017.

2017 Ozone Attainment Plan

In 2008, USEPA adopted a more stringent 8-hour ozone NAAQS of 0.075 ppm. Although 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, 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).

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 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 2017a). 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 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 2014 RTP. The conformity findings conclude that the FTIP and RTP result in emissions that are less than the emission budgets of baseline emissions for CO, VOC, NO_x, and PM₁₀ (Kern COG 2016).

4.3.4 Impacts and Mitigation Measures

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

Methodology

The air quality significance criteria were developed considering the CEQA significance criteria developed by the local air quality district in the project area, approved CEQA air quality checklists, and considering other federal criteria. The analysis presented within this section is based on both qualitative and quantitative approaches for determining air quality impacts associated with construction, operation, and maintenance of the project. The findings in the Air Quality Report prepared for the project (located in Appendix D 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.

Air Quality Plan Consistency

As a component of the cumulative impact analysis, the County Air Quality Assessment guidance (Kern County 2006) states that the following should be included in the consistency determination for existing air quality plans:

Discuss project in relation to Kern COG conformity and traffic analysis zones (TAZs)

Quantify the emissions from similar projects in the Ozone Attainment Plan for the applicable basin.

Discuss the Ozone Attainment Plan for the applicable air district, development, and relation to regional basin, Triennial Plan, and SIP

Pollutant Emissions

The construction and operational emissions were estimated from several emissions models and associated spreadsheet calculations, depending on the source type and data availability. Refer to Appendix D for details on equipment fleet, hours of operation, and other assumptions used.

Construction

Construction of the project would generate emissions of ROG, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} that could result in short-term air quality effects during the construction period. Emissions would originate from off-road equipment exhaust, employee and haul truck vehicle exhaust (on-road vehicles), fugitive dust from site grading and earth movement, and fugitive dust from concrete batching.

Emissions were estimated using a combination of emission factors and methodologies from CalEEMod, version 2016.3.2 (CARB 2017b); CARB's EMFAC2017 model (CARB 2017c); and EPA's AP-42 Compilation of Air Pollutant Emission Factors (USEPA 2006) based on project-specific construction data (e.g., schedule, equipment, truck volumes) provided by the project applicant. See Appendix A of the Air Quality Report 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: Off-road equipment would be required for several construction activities including grading, and structure construction. Emission factors for off-road construction equipment (e.g., loaders, graders, bulldozers) were obtained from the CalEEMod (version 2016.3.2) User's Guide appendix, which provides values per unit of activity (in grams per horsepower-hour) by calendar year (CARB 2017b). Criteria pollutants were estimated by multiplying the CalEEMod emission factors by the equipment inventory and activity assumptions (e.g., horsepower, hours of use per day) provided by the project applicant.

On-Road Vehicles: On-road vehicles (e.g., pickup trucks, flatbed trucks, and passenger vehicles) would be required for material deliveries to the project site, material and equipment hauling within the project site, onsite crew and material movement, and employee commuting. Exhaust emissions from on-road vehicles were estimated using the EMFAC2017 emissions model and activity data (miles traveled per day) provided by the project applicant. Emission factors for haul trucks are based on aggregated-speed emission rates for EMFAC's T7 Single Construction vehicle category. Emission factors for water trucks are based on aggregated-speed emission rates for EMFAC's T6 Instate Heavy vehicle category. To estimate vehicle travel within the project area, emission factors for onsite water and haul trucks were based on the same vehicle categories but assuming a 15 mph travel speed. Per the project applicant, 43 vendor trips per day would be required for delivery of equipment and materials, including the solar panels for installation, for the duration of project construction.

According to transportation analysis, the average trip length for vendor and material delivery trips from local and non-local sources is approximately 57 miles (Ruettggers & Schuler 2019).

Water Trucks: Water trucks would be required for several construction phases to provide fugitive dust control, with as many as 36 expected on a given day. According to the Water Supply Assessment, the potential locations for water supply are at 125th Street West and Rosamond Boulevard, or 120th Street West and Rosamond Boulevard, which are 5.6 and 5.1 miles from the project site, respectively (Watearth 2019). For the purposes of providing a conservative analysis, a one-way trip distance of 6 miles was assumed for delivery of water during construction.

Emission factors for employee commute vehicles are based on a weighted average for all vehicle speeds for EMFAC's light-duty automobile/light-duty truck vehicle categories. Per the project applicant, the average construction day would consist of 220 one-way employee commute trips. According to the transportation analysis, 80 percent of the personnel during construction are expected to travel to the project site from the local area, which would include the cities of Lancaster, Rosamond, and Mojave. The remaining 20 percent of construction personnel are expected to travel from areas outside of the Antelope Valley, such as Bakersfield and Tehachapi. Given this information, it was assumed that the average trip length for employee travel would be approximately 25 miles (Ruettggers & Schuler 2019).

To account for fugitive dust emissions from vehicle travel on unpaved roadways in proximity of the project site, it was assumed that 2 miles per one-way trip for all trips would be on unpaved roads. Fugitive dust emissions from unpaved road travel was estimated using emission factors from EPA's AP-42 *Compilation of Air Pollutant Emission Factors, Section 13.2.2 Unpaved Roads* guidance for publicly accessible unpaved roads (EPA 2006). Unlike publicly accessible unpaved roadways, fugitive dust emissions from vehicle travel on unpaved roadways within the project site were estimated using emission factors from EPA's AP-42 *Compilation of Air Pollutant Emission Factors, Section 13.2.2 Unpaved Roads* guidance for industrial unpaved roads (EPA 2006).

The remaining miles traveled to and from the project site were assumed to be on paved roads. Fugitive dust from paved roads was estimated using emission factors from CARB's *Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust* (CARB 2018).

Site Grading and Earth Movement: Fugitive dust emissions from earth movement (e.g., site grading, and bulldozing) were quantified using emission factors from CalEEMod. Data on the total graded acreage were provided by the project applicant and the graded acreage was assumed to be 500 total acres. Per the applicant, it was assumed that all material would be balanced on site and therefore no material import or export is expected.

Concrete Batching: The project may include a temporary concrete batch plant. Concrete is composed essentially of water, cement, sand (fine aggregate), and coarse aggregate. Fugitive dust emissions from concrete batching can result through the transfer of sand and aggregate, truck loading, mixer loading, and wind erosion from storage piles. Fugitive PM₁₀ and PM_{2.5} emissions from operation of the temporary batch plant were quantified using emission factors from EPA's AP-42, *Compilation of Air Pollutant Emission Factors*. It was assumed that the plant would process up to 11,000 cubic yards of concrete per year, or approximately 30 cubic yards per day.

A specific schedule is not known at this time, but project construction is assumed to last 10 to 14 months, beginning in the first quarter of 2021. To compare with EKAPCD's annual thresholds, and provide a conservative estimate of air quality emissions, construction activities were assumed to occur within a single calendar year.

Operation

Operation of the project would generate emissions of ROG, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} that could result in long-term impacts on ambient air quality. During operation of the solar facility, there would be daily operational activities as well as periodic panel washing activities, water demand, weekly potable water deliveries, and periodic water hauling for panel cleaning. Emissions would result from off-road equipment exhaust from pressure washers and on-road vehicle trip generation for water trucks, vendor trucks, and employee trips.

Combustion exhaust and fugitive dust (PM₁₀ and PM_{2.5}) from vehicle travel on paved and unpaved surfaces were estimated using the same methods as above, including CalEEMod, CARB's EMFAC2017 model, and EPA's AP-42 *Compilation of Air Pollutant Emission Factors* based on project-specific operational data (e.g., schedules, number of employees, truck volumes) provided by the project applicant. See Appendix A of the Air Quality Report for a complete list of operational assumptions.

Off-Road Equipment: Pressure washers would be required for periodic panel washing at the project site during normal operations. Per the project applicant, it was assumed that panel washing would occur up to two times per year and take approximately 5 days to complete (i.e., a total of 10 days annually), assuming use of three pressure washers per day. Emission factors for the use of the pressure washers were obtained from the CalEEMod User's Guide Appendix, which provides value per unit of activity (in grams per horsepower-hour) by calendar year (CARB 2017b). The CalEEMod default horsepower and load factors were used to estimate criteria air pollutant generation.

On-Road Vehicles: On-road vehicles (e.g., pickup trucks, water trucks, and passenger vehicles) would be required for delivery of potable water to the project site, delivery of water for panel washing, and employee commuting. Exhaust emissions from on-road vehicles were estimated using the EMFAC2017 emissions model and activity data (miles traveled per day) provided by the project applicant. It was assumed that potable water for the O&M facility (not panel washing) would be delivered from local sources and each trip would cover an average distance of 25 miles. Vendor trucks delivering potable water are based on aggregated-speed emission rates for EMFAC's T7 Single Construction vehicle category.

Emission factors for hauling of water for panel washing are based on aggregated-speed emission rates for EMFAC's T6 in-state heavy category. Per the project applicant, 33 trips per day would be required for the delivery of water during panel washing. Water during operations is assumed to be provided from the same location as water for construction. According to the Water Supply Assessment, the potential well locations for project water supply are 125th Street West and Rosamond Boulevard, or 120th Street West and Rosamond Boulevard, which are 5.6 and 5.1 miles from the project site, respectively (Watearth 2019). For the purposes of providing a conservative analysis, a one-way trip distance of 6 miles was assumed for delivery of water during panel cleaning.

Emission factors for employee commute vehicles are based on a weighted average for all vehicle speeds for EMFAC's light-duty automobile/light-duty truck vehicle categories. Per the project applicant, typical daily operation of the solar facility would require up to 12 full-time staff at the O&M facility, with an additional 8 workers required during panel washing. As with project construction, employee travel distance was assumed to be 25 miles per trip.

To account for fugitive dust emissions from vehicle travel on unpaved roadways in proximity of the project site, it was assumed that the final 2 miles of travel per one-way trip would be unpaved. As mentioned above, fugitive dust emissions from publicly accessible and industrial sites differ due to the average weight of vehicles that typically travel on each roadway type. Fugitive dust

emissions from travel on the 2-mile unpaved roadways leading to the project site were estimated using the appropriate unpaved emission factors from EPA's AP-42 *Compilation of Air Pollutant Emission Factors, Section 13.2.2 Unpaved Roads* guidance for publicly accessible roads, while travel on the project site assumed emission factors from the same guidance document for industrial unpaved roads. The remaining miles traveled were assumed to be on paved roads. Fugitive dust from paved roads was estimated using emission factors from EPA's AP-42 *Compilation of Air Pollutant Emission Factors, Section 13.2.1 Paved Roads* guidance, and CARB's *Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust*.

Health Risk Assessment

The approach to estimating cancer risk from long-term inhalation exposure to carcinogens requires calculating a range of potential doses and multiplying by cancer potency factors in units of inverse dose to obtain a range of cancer risks. For cancer risk, the risk for each age group is calculated using the appropriate breathing rates, age sensitivity factors, exposure duration, and cancer risks calculated for individual age groups are summed to estimate cancer risk based on assumed exposure durations. The California Office of Environmental Health Hazard Assessment recommends a 30-year exposure duration (residency time) for residential locations (OEHHA 2015). Note that PM₁₀ exhaust emissions are used as a surrogate for DPM based on guidance from the Office of Environmental Health Hazard Assessment.

EPA's AERMOD atmospheric dispersion model was used to simulate physical conditions and predict pollutant concentrations near the construction work areas. AERMOD is EPA's recommended air dispersion model for near-field modeling from vented and non-vented sources. The model uses hourly meteorological observations and emission rates to determine hourly average concentrations from which other averaging periods (e.g., 24-hour, annual averages) are determined. Dispersion modeling assumptions and results are provided in Appendix D of this Draft EIR. For each receptor, the modeled annual concentration from AERMOD was multiplied by the calculated dose (inhalation pathway only) factor and by one million to obtain the cancer risk, in chances per million. Construction was assumed to last one calendar year. Thus, the construction risk assessment assumes exposure begins at third trimester, runs for 0.25 percent (3 months) of a year, and the remaining 0.75 percent of a year (9 months) is assumed to occur in the 0 – <2 age bin. Fraction of time at home is set at 1.0 to be conservative.

Ambient Air Quality Analysis

The Kern County *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (Kern County 2006) require a dispersion modeling analysis of the maximum 24-hour average concentrations of PM₁₀ and PM_{2.5} resulting from construction in comparison to applicable ambient air quality standards and thresholds; therefore, an ambient air quality analysis (AAQA) was performed for the project during construction using AERMOD.¹ The purpose of the AAQA is to determine whether the project's construction emissions would cause or contribute to exceedances of any CAAQS or NAAQS during construction. The AAQA was performed using a two-step process to determine impacts. Dispersion modeling assumptions and results are provided in Appendix D of this Draft EIR.

¹ Since operational activities would be minimal, consisting of routine inspection and maintenance only, ambient air quality modeling was not performed.

CO Hotspots

Heavy traffic congestion can contribute to high levels of CO. Individuals exposed to these CO “hot-spots” may have a greater likelihood of developing adverse health effects. The potential for the proposed project to result in localized CO impacts at intersections resulting from addition of its traffic volumes is assessed based on Kern County’s suggested criteria, which recommends performing a localized CO impact analysis for intersections operating at or below level of service (LOS) E.

Visibility Impacts

The County guidance states that potential impacts to visibility should be evaluated for all industrial projects and any other projects, such as mining projects, that have components that could generate dust or emissions related to visibility.

Based on the Kern County guidelines, a visibility analysis not required since the project is not a large industrial stationary-source or mining project, and it would not have long-term operational components that could generate substantial dust or emission plumes related to visibility.

Valley Fever Exposure

While there are no specific thresholds for the evaluation of potential Valley Fever exposure, the potential for Valley Fever exposure as a result of the project is evaluated based on the anticipated earth-moving activities, and considers applicant-proposed measures and compliance with Rule 8021, Section 6.3, which requires development and implementation of a dust control plan to help control the release of the *Coccidioides immitis* fungus during construction activities.

Asbestos

There are no quantitative thresholds related to receptor exposure to asbestos. However, EKAPCD Rule 423 (National Emission Standards for Hazardous Air Pollutants and Source Categories) requires all projects to comply with the provisions of Title 40, Chapter I, Parts 61 and 63 of the Code of Federal Regulations.

Thresholds of Significance

Kern County

The Kern County CEQA Implementation Document and Kern County Environmental Checklist includes items taken from previous versions of Appendix G of the CEQA *Guidelines*. However, Appendix G was updated in 2018, resulting in minor changes to the checklist items. The analysis herein is based on the updated CEQA *Guidelines*, which differ slightly from the Kern County CEQA Implementation Document and Kern County Environmental Checklist.

The current CEQA *Guidelines* state that a project could have a significant adverse effect on air quality if it would:

- a. Conflict with or obstruct implementation of the applicable air quality plan;

- b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. Specifically, if implementation of the project would exceed any of the following adopted thresholds:
 - i. Eastern Kern Air Pollution Control District:
 - a. Operational and Area Sources:
 - 25 tons per year for ROG
 - 25 tons per year for NO_x
 - 15 tons per year for PM₁₀
 - b. Stationary Sources – determined by District Rules:
 - 25 tons per year
 - c. Expose sensitive receptors to substantial pollutant concentrations:
 - d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The lead agency determined in the NOP/IS (Appendix A of this Draft EIR) that the following environmental issue area would result in less-than-significant impacts and was, therefore, scoped out of requiring further review in this EIR:

- d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Project Impacts

Impact 4.3-1: The project would conflict with or obstruct implementation of the applicable air quality plan.

In general, a project would not interfere with the applicable air quality plan if it is consistent with growth assumptions used to form the applicable air quality plan and if the project implements all reasonably available and feasible air quality control measures. The consistency with the Air Quality Management Plan (AQMP) is discussed below for construction and operation.

Air quality impacts are controlled through policies and provisions of the EKAPCD, the Kern County General Plan, and the Kern County Code of Building Regulations. The CCAA requires air pollution control districts with severe or extreme air quality problems to provide for a five 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 EPA for final review and approval within the SIP.

Required Evaluation Guidelines

CEQA *Guidelines* and the CAA (Sections 176 and 316) contain specific references regarding the need to evaluate consistencies between the project and the applicable AQMP for the projects. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQMP:

1. *Determination that an AQMP is being implemented in the area where the project is being proposed.* EKAPCD's most recently adopted air quality management plan is its Ozone Air Quality Attainment Plan (AQAP) that is approved by CARB and EPA.
2. *The project must be consistent with the growth assumptions of the applicable AQMP.* The project, as solar facility, would not introduce land uses that would generate vehicle trips or promote growth in the project area beyond what is projected in the Kern County General Plan.
3. *The project must contain in its design all reasonably available and feasible air quality control measures.* The project incorporates various policy and rule-required implementation measures that would reduce related emissions.

Because implementation of the project would not result in additional growth beyond what was anticipated by the Kern County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

The findings of the analysis conducted using Traffic Analysis Zones (TAZ) show that sufficient employment increase is planned for the project area.

The primary source of emissions from the project would be from vehicles that are licensed through the state and whose emissions are already incorporated into CARB's emissions inventory.

Construction

The project would comply with all applicable EKAPCD rules and regulations, such as EKAPCD Rule 401 (Visible Emissions) and EKAPCD Rule 402 (Fugitive Dust). The project would not conflict with or propose to change existing land uses or result in population growth. As discussed further below under Impact 4.3-3, the project would exceed the EKAPCD's significance threshold for NO_x and PM₁₀, as shown in **Table 4.3-6, Unmitigated Annual Construction Emissions**. As such, the project would implement Mitigation Measure MM 4.3-1, which would require implementation of EPA Tier 3 or higher engines, among other measures. The project would also implement Mitigation Measure MM 4.3-2, which would require implementation of a Fugitive Dust Control Plan during construction of the project. While the implementation of these mitigation measures would reduce emissions of NO_x and PM₁₀ during construction of the project, these emissions would not be reduced below the EKACPD significance threshold.

As the MDAB is in non-attainment for ozone (of which NO_x is a precursor) and PM₁₀ and the project would result in significant temporary levels of NO_x and PM₁₀ emissions during construction, the project could conflict with or delay the attainment of the standard. Therefore, the project would result in a significant and unavoidable impact.

Operation

The project would be consistent with the existing land use designations in the current Kern County General Plan and Willow Springs Specific Plan and would not introduce a land use that would induce population or housing growth that could result in a substantial increase in vehicle miles traveled and associated criteria pollutant emissions. When compared against the current zoning of the project site that would allow for the

development of agricultural uses, the solar facility would result in less operational emissions from mobile and area sources that would be generated. The only source of operational emissions associated with the project would be those generated from mobile sources traveling to and from the project area to perform routine maintenance and occasional panel washing. As no onsite maintenance and operations staff are proposed, long-term emissions from the project would consist of sporadic vehicular emissions from employees, which would be minimal and would not result in a substantial increase in emissions. As shown below in **Table 4.3-8, *Annual Operational Emissions***, under Impact 4.3-3, the project's daily and annual operational emissions would be below EKAPCD's significance thresholds.

Furthermore, the solar power generation system of the project would also function to reduce the air pollutant emissions within the MDAB to the extent that the power generated is used to offset power production from fossil fueled power plants within (or contributory to) the MDAB. This power production is not projected within the existing air quality plans, and so the project would further aid in reducing air pollutant emissions and increase the potential for attainment of the Ozone Attainment Plan. Therefore, the project would not conflict with the EKAPCD's Ozone Attainment Plan. As project operational emissions would also not exceed the EKAPCD's significance thresholds, implementation of the project would not obstruct implementation of an air quality plan during operation. Therefore, operational impacts would be less than significant.

Decommissioning

The project is anticipated to operate for 30 to 35 years, after which the land could be converted to other uses in accordance with applicable land use regulations in effect at that time if its CUP is not extended. The project will be required to develop a decommissioning plan and financial assurances for review and approval by the Kern County Planning and Natural Resources Department. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, State, and County regulations.

At such time as the facility is decommissioned, equipment operation and site restoration activities would result in impacts to air quality. Given the fact that much of the construction equipment necessary to construct the project would also be required to decommission the site, it is reasonable to assume that decommissioning activities would be similar in nature to activities associated with construction of the project. Impacts would be less than those of construction, as no grading would occur. Even though no grading would occur during decommissioning of the project, it is conservatively assumed that decommissioning would similarly exceed EKAPCD's significance thresholds related to emissions of NO_x and PM₁₀, as with construction of the project. The project would also implement Mitigation Measures MM 4.3-1 and MM 4.3-2 in order to reduce emissions of NO_x and PM₁₀ during decommissioning. Similar to construction of the project, impacts related to emissions of NO_x and PM₁₀ would continue to be above the EKAPCD's significance thresholds. However, as with construction of the project, while emissions are considered temporary and not a long-term emissions source, short-term exceedances during decommissioning could obstruct EKAPCD's ability to achieve further progress toward attainment of the 8-hour O₃ ambient air quality standard. Therefore, similar to construction, the project would conflict with or obstruct the air quality planning goals set forth by EKAPCD, and decommissioning would result in a significant and unavoidable impact.

Mitigation Measures

Kern County

MM 4.3-1: Implement Diesel Emission-Reduction Measures During Construction. To control NO_x and PM emissions during construction, the project proponent/operator and/or its contractor(s) shall implement the following measures during construction of the project, subject to verification by the County:

- a) Off-road equipment engines over 25 horsepower shall be equipped with EPA Tier 3 or higher engines, unless Tier 3 construction equipment is not locally available.
- b) All equipment shall be maintained in accordance with the manufacturer's specifications.
- c) 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.
- d) Notification shall be provided to trucks and vehicles in loading or unloading queues that their engines shall be turned off when not in use for more than 5 minutes.
- e) Electric equipment shall be used to the extent feasible in lieu of diesel or gasoline-powered equipment.
- f) All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NO_x emissions.
- g) On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines.
- h) Existing electric power sources shall be used to the extent feasible. This measure would minimize the use of higher polluting gas or diesel generators.
- i) The hours of operation of heavy-duty equipment and/or the quantity of equipment in use shall be limited to the extent feasible.

MM 4.3-2: Implement Fugitive Dust Control Plan During Construction. To control fugitive PM emissions during construction, prior to the issuance of grading or building permits and any earthwork activities, the project proponent shall prepare a comprehensive Fugitive Dust Control Plan for review by the Kern County Planning and Natural Resources Department. The plan shall include all EKAPCD-recommended measures, including but not limited to, the following:

- a) All soil being actively excavated or graded shall be sufficiently water to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soils areas. Watering shall take place a minimum of three times daily where soil is being actively disturbed, unless dust is otherwise controlled by rainfall or use of a dust suppressant.
- b) Vehicle speed for all on site (i.e., within the project boundary) construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. Signs identifying construction vehicle speed limits shall be posted along onsite roadways, at the site entrance/exit, and along unpaved site access roads.

- c) Vehicle speeds on all offsite unpaved roads (i.e., outside the project boundary) construction vehicles shall not exceed 25 mph. Signs identifying vehicle speed limits shall be posted along unpaved site access roads and at the site entrance/exit.
- d) All onsite unpaved roads and offsite unpaved public project-site access road(s) shall be effectively stabilized of dust emissions using water or EKAPCD-approved dust suppressants/palliatives, sufficient to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. If water is used, watering shall occur a minimum of three times daily, sufficient to keep soil moist along actively used roadways. During the dry season, unpaved road surfaces and vehicle parking/staging areas shall be watered immediately prior to periods of high use (e.g., worker commute periods, truck convoys). Reclaimed (non-potable) water shall be used to the extent available and feasible.
- e) The amount of the disturbed area (e.g., grading, excavation) shall be reduced and/or phased where possible.
- f) All disturbed areas shall be sufficiently watered or stabilized by EKAPCD-approved methods to prevent excessive dust. On dry days, watering shall occur a minimum of three times daily on actively disturbed areas. Watering frequency shall be increased whenever wind speeds exceed 15 mph or, as necessary, to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. Reclaimed (non-potable) water shall be used to the extent available and feasible.
- g) All clearing, grading, earth moving, and excavation activities shall cease during periods when dust plumes of 20 percent or greater opacity affect public roads or nearby occupied structures.
- h) All disturbed areas anticipated to be inactive for periods of 30 days or more shall be treated to minimize wind-blown dust emissions. Treatment may include, but is not limited to, the application of an EKAPCD-approved chemical dust suppressant, gravel, hydro-mulch, revegetation/seeding, or wood chips.
- i) All active and inactive disturbed surface areas shall be compacted, where feasible.
- j) Equipment and vehicle access to disturbed areas shall be limited to only those vehicles necessary to complete the construction activities.
- k) Where applicable, permanent dust control measures shall be implemented as soon as possible following completion of any soil-disturbing activities.
- l) Stockpiles of dirt or other fine loose material shall be stabilized by watering or other appropriate methods sufficient to reduce visible dust emissions to a limit of 20 percent opacity. If necessary and where feasible, three-sided barriers shall be constructed around storage piles and/or piles shall be covered by use of tarps, hydro-mulch, woodchips, or other materials sufficient to minimize wind-blown dust.
- m) Water shall be applied prior to and during the demolition of onsite structures sufficient to minimize wind-blown dust.

- n) Where acceptable to the fire department and feasible, weed control shall be accomplished by mowing instead of disking, thereby leaving the ground undisturbed and with a mulch covering.
- o) All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least 2 feet of freeboard (minimum vertical distance between top of the load and top of the trailer) in accordance with California Vehicle Code Section 23114.
- p) Gravel pads, grizzly strips, or other material track-out control methods approved for use by EKAPCD shall be installed where vehicles enter or exit unpaved roads onto paved roadways.
- q) Haul trucks and off-road equipment leaving the site shall be washed with water or high-pressure air, and/or rocks/grates at the project entry points shall be used, when necessary, to remove soil deposits and minimize the track-out/deposition of soil onto nearby paved roadways.
- r) During construction paved road surfaces adjacent to the site access road(s), including adjoining paved aprons, shall be cleaned, as necessary, to remove visible accumulations of track-out material. If dry sweepers are used, the area shall be sprayed with water prior to sweeping to minimize the entrainment of dust. Reclaimed water shall be used to the extent available.
- s) Portable equipment, 50 horsepower or greater, used during construction activities (e.g., portable generators, temporary concrete batch plant) shall require California statewide portable equipment registration (issued by CARB) or an EKAPCD permit.
- t) The Fugitive Dust Control Plan shall identify a designated person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures, as necessary, to minimize the transport of dust off site and to ensure compliance with identified fugitive dust control measures. Contact information for a hotline shall be posted on site should any complaints or concerns be received during working hours and holidays and weekend periods when work may not be in progress. The names and telephone numbers of such persons shall be provided to the EKAPCD Compliance Division prior to the start of any grading or earthwork.
- u) Signs shall be posted at the project site entrance and written notifications shall be provided a minimum of 30 days prior to initiation of project construction to residential land uses located within 1,000 feet of the project site. The signs and written notifications shall include the following information: (a) Project Name; (b) Anticipated Construction Schedule(s); and (c) Telephone Number(s) for designated construction activity monitor(s) or, if established, a complaint hotline.
- v) The designated construction monitor shall document and immediately notify EKAPCD of any air quality complaints received. If necessary, the project operator and/or contractor will coordinate with EKAPCD to identify any additional feasible measures and/or strategies to be implemented to address public complaints.
- w) Prior to construction of any concrete batch plant, the project proponent shall provide EKAPCD with documentation ensuring that any concrete batch plants will be sited at least 1,000 feet from sensitive receptors, including places such as daycare centers,

hospitals, senior care facilities, residences, parks, and other areas where people may congregate. The concrete batch plant shall implement typical control measures to reduce fugitive dust, such as water sprays, enclosures, hoods, curtains, shrouds, movable and telescoping chutes, central dust collection systems, and other suitable technology, to reduce emissions to be equivalent to the EPA AP-42 controlled emission factors for concrete batch plants. The contractor shall provide EKAPCD with documentation that each batch plant meets this standard during operation.

State Lands Commission

MM 4.3-1: Implement Diesel Emission-Reduction Measures During Construction. To control NO_x and PM emissions during construction, the project proponent/operator and/or its contractor(s) shall implement the following measures during construction of the project, subject to verification by the County:

- a) Off-road equipment engines over 25 horsepower shall be equipped with EPA Tier 3 or higher engines, unless Tier 3 construction equipment is not locally available.
- b) All equipment shall be maintained in accordance with the manufacturer's specifications.
- c) 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.
- d) Notification shall be provided to trucks and vehicles in loading or unloading queues that their engines shall be turned off when not in use for more than 5 minutes.
- e) Electric equipment shall be used to the extent feasible in lieu of diesel or gasoline-powered equipment.
- f) All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NO_x emissions.
- g) On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines.
- h) Existing electric power sources shall be used to the extent feasible. This measure would minimize the use of higher polluting gas or diesel generators.
- i) The hours of operation of heavy-duty equipment and/or the quantity of equipment in use shall be limited to the extent feasible.

MM 4.3-2: Implement Fugitive Dust Control Plan During Construction. To control fugitive PM emissions during construction, prior to the issuance of grading or building permits and any earthwork activities, the project proponent shall prepare a comprehensive Fugitive Dust Control Plan for review by the Kern County Planning and Natural Resources Department. The plan shall include all EKAPCD-recommended measures, including but not limited to, the following:

- a) All soil being actively excavated or graded shall be sufficiently water to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soils areas. Watering shall take place a minimum of three times daily where soil is

being actively disturbed, unless dust is otherwise controlled by rainfall or use of a dust suppressant.

- b) Vehicle speed for all on site (i.e., within the project boundary) construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. Signs identifying construction vehicle speed limits shall be posted along onsite roadways, at the site entrance/exit, and along unpaved site access roads.
- c) Vehicle speeds on all offsite unpaved roads (i.e., outside the project boundary) construction vehicles shall not exceed 25 mph. Signs identifying vehicle speed limits shall be posted along unpaved site access roads and at the site entrance/exit.
- d) All onsite unpaved roads and offsite unpaved public project-site access road(s) shall be effectively stabilized of dust emissions using water or EKAPCD-approved dust suppressants/palliatives, sufficient to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. If water is used, watering shall occur a minimum of three times daily, sufficient to keep soil moist along actively used roadways. During the dry season, unpaved road surfaces and vehicle parking/staging areas shall be watered immediately prior to periods of high use (e.g., worker commute periods, truck convoys). Reclaimed (non-potable) water shall be used to the extent available and feasible.
- e) The amount of the disturbed area (e.g., grading, excavation) shall be reduced and/or phased where possible.
- f) All disturbed areas shall be sufficiently watered or stabilized by EKAPCD-approved methods to prevent excessive dust. On dry days, watering shall occur a minimum of three times daily on actively disturbed areas. Watering frequency shall be increased whenever wind speeds exceed 15 mph or, as necessary, to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. Reclaimed (non-potable) water shall be used to the extent available and feasible.
- g) All clearing, grading, earth moving, and excavation activities shall cease during periods when dust plumes of 20 percent or greater opacity affect public roads or nearby occupied structures.
- h) All disturbed areas anticipated to be inactive for periods of 30 days or more shall be treated to minimize wind-blown dust emissions. Treatment may include, but is not limited to, the application of an EKAPCD-approved chemical dust suppressant, gravel, hydro-mulch, revegetation/seeding, or wood chips.
- i) All active and inactive disturbed surface areas shall be compacted, where feasible.
- j) Equipment and vehicle access to disturbed areas shall be limited to only those vehicles necessary to complete the construction activities.
- k) Where applicable, permanent dust control measures shall be implemented as soon as possible following completion of any soil-disturbing activities.
- l) Stockpiles of dirt or other fine loose material shall be stabilized by watering or other appropriate methods sufficient to reduce visible dust emissions to a limit of 20 percent opacity. If necessary and where feasible, three-sided barriers shall be constructed

around storage piles and/or piles shall be covered by use of tarps, hydro-mulch, woodchips, or other materials sufficient to minimize wind-blown dust.

- m) Water shall be applied prior to and during the demolition of onsite structures sufficient to minimize wind-blown dust.
- n) Where acceptable to the fire department and feasible, weed control shall be accomplished by mowing instead of disking, thereby leaving the ground undisturbed and with a mulch covering.
- o) All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least 2 feet of freeboard (minimum vertical distance between top of the load and top of the trailer) in accordance with California Vehicle Code Section 23114.
- p) Gravel pads, grizzly strips, or other material track-out control methods approved for use by EKAPCD shall be installed where vehicles enter or exit unpaved roads onto paved roadways.
- q) Haul trucks and off-road equipment leaving the site shall be washed with water or high-pressure air, and/or rocks/grates at the project entry points shall be used, when necessary, to remove soil deposits and minimize the track-out/deposition of soil onto nearby paved roadways.
- r) During construction, paved road surfaces adjacent to the site access road(s), including adjoining paved aprons, shall be cleaned, as necessary, to remove visible accumulations of track-out material. If dry sweepers are used, the area shall be sprayed with water prior to sweeping to minimize the entrainment of dust. Reclaimed water shall be used to the extent available.
- s) Portable equipment, 50 horsepower or greater, used during construction activities (e.g., portable generators, temporary concrete batch plant) shall require California statewide portable equipment registration (issued by CARB) or an EKAPCD permit.
- t) The Fugitive Dust Control Plan shall identify a designated person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures, as necessary, to minimize the transport of dust off site and to ensure compliance with identified fugitive dust control measures. Contact information for a hotline shall be posted on site should any complaints or concerns be received during working hours and holidays and weekend periods when work may not be in progress. The names and telephone numbers of such persons shall be provided to the EKAPCD Compliance Division prior to the start of any grading or earthwork.
- u) Signs shall be posted at the project site entrance and written notifications shall be provided a minimum of 30 days prior to initiation of project construction to residential land uses located within 1,000 feet of the project site. The signs and written notifications shall include the following information: (a) Project Name; (b) Anticipated Construction Schedule(s); and (c) Telephone Number(s) for designated construction activity monitor(s) or, if established, a complaint hotline.
- v) The designated construction monitor shall document and immediately notify EKAPCD of any air quality complaints received. If necessary, the project operator and/or

contractor will coordinate with EKAPCD to identify any additional feasible measures and/or strategies to be implemented to address public complaints.

- w) Prior to construction of any concrete batch plant, the project proponent shall provide EKAPCD with documentation ensuring that any concrete batch plants will be sited at least 1,000 feet from sensitive receptors, including places such as daycare centers, hospitals, senior care facilities, residences, parks, and other areas where people may congregate. The concrete batch plant shall implement typical control measures to reduce fugitive dust, such as water sprays, enclosures, hoods, curtains, shrouds, movable and telescoping chutes, central dust collection systems, and other suitable technology, to reduce emissions to be equivalent to the EPA AP-42 controlled emission factors for concrete batch plants. The contractor shall provide EKAPCD with documentation that each batch plant meets this standard during operation.

Level of Significance after Mitigation

Impacts from NO_x and PM₁₀ would be significant and unavoidable during construction and decommissioning even with implementation of mitigation. Impacts from all other emissions would be less than significant.

Impact 4.3-2: Construction and operation of the project would expose sensitive receptors to substantial pollutant concentrations.

Sensitive receptors are particularly sensitive to air pollution because they are persons that are ill, elderly, or have lungs that are not fully developed. Locations where such persons reside, spend considerable amount of time, or engage in strenuous activities are also referred to as sensitive receptors. Typical sensitive receptors include inhabitants of long-term healthcare facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, childcare centers, and athletic facilities. As discussed previously, the project is located in a rural area. Land uses surrounding the project site currently include sparsely distributed residential dwellings with solar projects to the immediate north, west, and farther south, beyond Rosamond Boulevard. While some of the residential properties abut the project site, the dwelling structures are generally farther away beyond the project site boundaries. As a note, a residential structure was previously located on the project site, but has been demolished.

Toxic Air Contaminants (TACs)

Projects are considered for potential health risks wherein a new or modified source of TACs is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to TACs.

The primary TAC of concern for this project would be DPM emitted within the project site from the construction and operation phases of the project. Diesel-powered construction equipment as well as heavy duty truck movement and hauling would emit DPM that could potentially expose nearby sensitive receptors to pollutant concentrations. Health risks related to DPM are assessed quantitatively based on anticipated project emissions and proximity to sensitive receptors, which include residential dwellings that are sparsely scattered around the perimeter of the project site, located at various distances from the project site boundary. For purposes of analysis, risk was also assessed at the project fence line to demonstrate the low levels of risk associated with the project.

Table 4.3-4, *Estimated Health Risk During Construction*, illustrates the cancer risk and non-cancer hazard index. As shown therein, implementation of the project would not result in increased cancer risk or hazard index in excess of thresholds.

TABLE 4.3-4: ESTIMATED HEALTH RISK DURING CONSTRUCTION

Location	Cancer Risk (cases per million)	Chronic Hazard Index
Maximum Incremental Risk at Existing Receptors	2.04	0.003
Maximum Incremental Risk at Project Fence Line	5.33	0.008
Threshold	10.0	1.0
Is Threshold Exceeded?	No	No
SOURCE: ICF 2019.		

Once operational, the project would require traveling to and from the project area to perform routine maintenance and occasional panel washing. However, vehicle emissions generated by these visits would mostly be from gasoline-powered passenger vehicles and pickups, which do not emit DPM. While diesel-powered pressure washers and trucks would be used during panel washing, DPM emissions would be minimal due to the short duration of these operations (10 days per year). Therefore, operation of the project would not result in an increase in DPM emissions.

Based on the above, the project's associated health risk impacts would be considered less than significant during construction and operation of the project.

Localized Particulate Concentrations Project construction would include activities that cause ground disturbance and would include equipment and truck exhaust. Uncontrolled emissions of PM could result in increased concentrations that could have an adverse impact on localized air quality. As part of the Air Quality Report, provided in Appendix D of this EIR, localized concentrations of PM₁₀ and PM_{2.5} emissions were evaluated to determine whether the project's construction emissions would cause or contribute to exceedances of any CAAQS or NAAQS during construction.

Table 4.3-5, *Estimated Particulate Matter Concentrations During Construction*, illustrates the maximum predicted concentrations of both PM₁₀ and PM_{2.5}. As shown therein, the proposed construction activity at and near the project site would not cause an exceedance of the appropriate PM₁₀ and PM_{2.5} significant impact level (SIL) at the most-affected sensitive offsite receptors. Additionally, Mitigation Measure MM 4.3-2 would ensure implementation of a Fugitive Dust Control Plan during project construction. Therefore, impacts would be less than significant with mitigation. Note that the biggest contribution of PM₁₀ and PM_{2.5} at the maximally exposed receptor and fence line locations is from unpaved road dust due to vehicle travel on unpaved roads near to the project site.

TABLE 4.3-5: ESTIMATED PARTICULATE MATTER CONCENTRATIONS DURING CONSTRUCTION

Location	24-hour PM ₁₀	24-hour PM _{2.5}
Maximum at Existing Receptors	2.06 g/m ³	0.57 g/m ³
Maximum at Project Fence Line	4.11 g/m ³	1.14 g/m ³
EPA SIL	5 g/m ³	1.2 g/m ³
Is Threshold Exceeded?	No	No
SOURCE: ICF 2019.		

CO Hotspots

A CO “hotspot” can occur when vehicles are idling at highly congested intersections. CO hotspots can adversely affect nearby sensitive receptors. The Kern County Planning Department’s, Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (2006) states that CO hotspots must be analyzed when one of the following conditions occur: (a) a project increases traffic at an intersection or roadway that operates at a Level of Service (LOS) E or worse; (b) a project involves adding signalization and/or channelization to an intersection; or (c) sensitive receptors such as residences, schools, hospitals, etc., are located in the vicinity of the affected intersection or signalization.

The project would have trip generation associated with construction worker vehicles and vendor trucks. As construction is only expected to last 10 to 14 months, it would be considered temporary and would not result in a long-term source of CO emissions. In addition, the project would create minimal emission sources during operation. As identified in Section 4.15, *Transportation*, of this EIR, the project would not result in intersections operating at or below LOS E. Therefore, the project would not have CO hotspots—related impacts, and would not contribute a significant level of CO such that localized air quality and human health would be substantially degraded. Impacts would be less than significant.

Visibility Impacts

As discussed above under Methodology, Kern County has established criteria to determine if a project would potentially result in a visibility impact; however, the EKAPCD has not established guidance to address visibility in CEQA documents. Per the Kern County guidelines, a visibility analysis is not required since the project is not a large industrial stationary source project or a mining project, and it would not have long-term operational components that could generate dust or emissions plumes related to visibility. Compliance with EKAPCD Rule 402, including implementation of a dust control plan, is sufficient mitigation to reduce air quality effects from construction-related PM₁₀ emissions to a less-than significant level. Therefore, the project’s potential to expose sensitive receptors to substantial pollutant concentrations associated with potential visibility impacts would be less than significant and no mitigation is required.

Valley Fever

The project has the potential to generate fugitive dust and suspend Valley Fever spores with the dust that could then reach nearby sensitive receptors. It is possible that onsite workers could be exposed to valley fever as fugitive dust is generated during construction. As such, the risk of exposure and contraction of Valley Fever as a result of the project would be increased from the existing conditions, and MM 4.3-3 is required to ensure that construction workers take the proper precautions to avoid Valley Fever exposure. In

addition, MM 4.3-4 is proposed to ensure appropriate public awareness regarding Valley Fever. Therefore, implementation of the Mitigation Measure MM 4.3-3 and MM 4.3-4 would minimize the exposure to Valley Fever during construction and impacts would be reduced to less-than-significant levels.

Asbestos

Naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading of development projects, and at mining operations.

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. However, according to information provided by the Department of Conservation Division of Mines and Geology, the project site is not in an area likely to contain ultramafic rock or naturally occurring asbestos (California Department of Conservation 2000). Therefore, impacts associated with exposure of construction workers and nearby sensitive receptors to asbestos would be less than significant.

Health Effects of Criteria Pollutants

The EPA and CARB have established AAQS 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 AAQS. 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 O₃ (one hour), PM₁₀ and PM_{2.5} and nonattainment for O₃ (eight hours) under the NAAQS, and nonattainment for O₃, PM₁₀ and PM_{2.5} under the CAAQS.

Regarding health effects of criteria air pollutants, implementation of MM 4.3-1 through 4.3-4 would reduce the projects potential to result in regional health effects associated with ROG, NO_x, PM₁₀ and PM_{2.5}; however, localized health effects associated with NO_x, PM₁₀, and PM_{2.5} could occur. However, implementation of the mitigation measures would reduce both localized and regional project generated construction and operational emissions.

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 O₃ 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 South Coast Air Quality Management District who

have determined that this type of analysis is speculative and infeasible and there are no unique issues for the EKAPCD 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 AAQS by evaluating the project’s compliance with district thresholds of significance, which are measured in mass emissions (SJVAPCD 2015). As explained by SJVAPCD, its thresholds are based on factual, scientific data and have been set at a level that ensures that AAQS will not be exceeded, taking into consideration all cumulative emission sources (SJVAPCD 2015). The SJVAPCD explained that attempting to connect criteria pollutant emissions to localized health impacts will “not yield reliable information because currently available modeling tools are not well suited for this task” (SJVAPCD 2015). Available models are only equipped to model the impact of all emissions sources on an air basin-wide or regional basis, not on a project-level basis, and “[r]unning the photochemical grid model used for predicting ozone attainment with emissions solely from one project would thus not be likely to yield valid information given the relative scale involved” (SJVAPCD 2015).

This inability to “accurately ascertain local increases in concentration” of mass emissions and then to further link emissions with health effects is particularly true for O₃ and its precursors NO_x and ROG and VOC; O₃ 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 O₃ can be transported by wind over long distances, “a specific tonnage amount of NO_x or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area” (SJVAPCD 2015). For this reason, the photochemical analysis for O₃ is done on a regional scale and it is inappropriate to analyze O₃ 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 O₃ 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 O₃ and particulates, it would still be “impossible, using today’s models, to correlate that increase in concentration to a specific health impact” (SJVAPCD 2015). The SJVAPCD stated that even a project with criteria pollutant emissions above its CEQA thresholds does not necessarily cause localized human health impacts as, even with relatively high levels of emissions, the SJVAPCD cannot determine “whether and to what extent emissions from an individual project directly impact human health in a particular area” (SJVAPCD 2015). The SJVAPCD explained that this is particularly true for development projects like the Project, where most of the criteria pollutants derive from mobile and area sources and not stationary sources. The SCAQMD also, as amicus curiae in *Sierra Club*, made similar points, reiterating that “an agency should not be required to perform analyses that do not produce reliable or meaningful results” (SCAQMD 2015). SCAQMD agrees that it is very difficult to quantify health impacts with regard to O₃, opining that the only possible means of

successfully doing so is for a project so large that emissions would essentially amount to *all* regional increases (SCAQMD 2015). With regard to particulate matter, the SCAQMD noted that while the CARB has created a methodology to predict expected mortality from large amount of PM_{2.5}, the primary author of the methodology has reported that it “may yield unreliable results due to various uncertainties” and CARB staff has been directed by its Governing Board to reassess and improve it, which factor “also counsels against setting any hard-and-fast rule” about conducting this type of analysis (SCAQMD 2015). The amicus briefs filed by SJVAPCD and SCAQMD in *Sierra Club* are attached as Appendix D.

Mitigation Measures

Valley Fever

Kern County

MM 4.3-3: Minimize Exposure to Potential Valley Fever–Containing Dust. 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:

1. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved off site to other work locations.
2. 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.
3. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area.
4. 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.
5. All heavy-duty earth-moving vehicles shall be closed-cab and equipped with a HEP-filtered air system.
6. Workers shall receive training 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.
7. A Valley Fever informational handout shall be provided to all onsite construction personnel. The handout shall, at a minimum, provide information regarding the symptoms, health effects, preventative measures, and treatment. Additional information and handouts can be obtained by contacting the Kern County Public Health Services Department.
8. Onsite personnel shall be trained on the proper use of personal protective equipment, including respiratory equipment. National Institute for Occupational Safety and Health–approved respirators shall be provided to onsite personal, upon request. Evidence of training shall be provided to the Kern County Planning.

MM 4.3-4: 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.

State Lands Commission

MM 4.3-3: Minimize Exposure to Potential Valley Fever–Containing Dust. 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:

1. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved off site to other work locations.
2. 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.
3. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area.
4. 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.
5. All heavy-duty earth-moving vehicles shall be closed-cab and equipped with a HEP-filtered air system.
6. Workers shall receive training 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.
7. A Valley Fever informational handout shall be provided to all onsite construction personnel. The handout shall, at a minimum, provide information regarding the symptoms, health effects, preventative measures, and treatment. Additional information and handouts can be obtained by contacting the Kern County Public Health Services Department.
8. Onsite personnel shall be trained on the proper use of personal protective equipment, including respiratory equipment. National Institute for Occupational Safety and Health–approved respirators shall be provided to onsite personnel, upon request. Evidence of training shall be provided to the Kern County Planning.

MM 4.3-4: 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.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.3-3 and MM 4.3-4, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

The Kern County's Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (Kern County 2006) require three steps for estimating the potential significance of cumulative impacts: (1) evaluate localized impacts (Guideline Instruction 16a); (2) evaluate consistency with existing air quality plans (Guideline Instruction 16b); and (3) summarize CARB air basin emissions (Guideline Instruction 16c).

The geographic scope for cumulative air quality impacts is a six-mile radius for regional impacts and a one-mile radius for impacts on sensitive receptors. These geographic scopes of analysis are appropriate for determining air quality impacts because of the Statewide, regional, and localized nature of air quality impacts, which could occur cumulatively with the project. A review of the Kern County records indicates that, at the time this analysis was completed, there were 11 projects within a 1-mile radius and 38 projects within a 6-mile radius of the project site. After further refinement and consideration, it was identified that 11 projects within a 6-mile radius of the project site have the potential to contribute to a cumulative effect related to air quality. Three of these 11 projects are also within the 1-mile radius of the project site. A table listing both the 6-mile-radius projects and 1-mile projects can be found in Chapter 3, Project Description, of this EIR.

Impact 4.3-3: Construction and operation of the project would result in a cumulatively considerable net increase of any criteria pollutant for which the projects' region is nonattainment under applicable federal or State ambient air quality standards.

Construction

Construction of the project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions.

Criteria air pollutant emissions associated with temporary construction activity were quantified using a combination of emission factors and methodologies from CalEEMod, EMFAC 2017, and EPA's AP-42 Compilation of Air Pollutant Emission Factors. Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the project applicant and is intended to represent a reasonable scenario based on the best information available. As discussed above, all construction activities were assumed to occur in the same year to compare to EKAPCD's annual emissions thresholds. Default values provided in CalEEMod were used where detailed project information was not available. Details of the emission calculations are provided in Appendix D of this EIR.

Table 4.3-6 presents the annual construction emissions generated during construction of the project. As shown therein, construction of the project would generate annual emissions of ROG and SO_x that are below the applicable EKAPCD significance thresholds before mitigation. Project construction would generate an estimated 54 tons per year of NO_x and 128 tons per year of PM₁₀ emissions prior to mitigation, which would exceed the annual emissions thresholds set by EKAPCD. Note that the majority of NO_x emissions (75

percent) would be associated with construction equipment activity on site, while the majority of PM₁₀ emissions (74 percent) would be associated with employee vehicle travel to the project site. Therefore, impacts would be potentially significant before mitigation.

TABLE 4.3-6: UNMITIGATED ANNUAL CONSTRUCTION EMISSIONS

Emissions Source	Pollutant (tons/year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Move on	<1	2	1	<1	1	<1
Site Preparation and Grading	1	10	6	<1	4	2
New Access Road Construction	<1	2	1	<1	1	<1
Generation Tie Line Construction	<1	3	2	<1	1	<1
Internal Roads Construction	<1	1	1	<1	<1	<1
Operations and Maintenance Building Construction	<1	<1	<1	<1	<1	<1
Electrical Substation and Microwave Tower Construction	<1	1	1	<1	<1	<1
Transmission Line Construction	<1	<1	<1	<1	<1	<1
Batch Plant Operations	<1	<1	<1	<1	2	<1
Solar Array Structural, Underground and Panel, and Battery Installation	4	35	30	<1	119	13
Total Emissions	6	54	43	<1	128	16
EKAPCD Threshold	25	25	—	27	15	—
Is Threshold Exceeded?	No	Yes	—	No	Yes	—

SOURCE: ICF, 2019.

As discussed previously, the project would implement Mitigation Measure MM 4.3-1, which would require implementation of EPA Tier 3 or higher engines, among other measures, and Mitigation Measure MM 4.3-2, which would require implementation of a Fugitive Dust Control Plan during construction of the project. While the implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 would reduce emissions of NO_x and PM₁₀ during construction of the project, these emissions would not be reduced below the EKACPD significance threshold, as illustrated in **Table 4.3-7, Mitigated Annual Construction Emissions**, provided below. Therefore, the project would result in significant and unavoidable impacts from construction-related emissions of NO_x and PM₁₀.

TABLE 4.3-7: MITIGATED ANNUAL CONSTRUCTION EMISSIONS

Emissions Source	Pollutant (tons/year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Move on	<1	1	1	<1	<1	<1
Site Preparation and Grading	<1	5	6	<1	2	1
New Access Road Construction	<1	1	1	<1	<1	<1
Generation Tie Line Construction	<1	2	2	<1	<1	<1
Internal Roads Construction	<1	<1	<1	<1	<1	<1
Operations and Maintenance Building Construction	<1	<1	<1	<1	<1	<1
Electrical Substation and Microwave Tower Construction	<1	1	1	<1	<1	<1
Transmission Line Construction	<1	<1	<1	<1	<1	<1
Batch Plant Operations	<1	<1	<1	<1	<1	<1
Solar Array Structural, Underground and Panel, and Battery Installation	2	28	28	<1	36	5
Total Emissions	2	39	41	<1	39	6
EKAPCD Threshold	25	25	—	27	15	—
Is Threshold Exceeded?	No	Yes	—	No	Yes	—

SOURCE: ICF, 2019.

Operation

The project involves development of a 128 MW PV solar energy facility with capacity derived from fixed-tilt or tracker technology, and up to 60 MW of battery storage. Operation of the project would generate criteria air pollutants. As with construction, pollutant emissions associated with long-term operations were quantified using emission factors and methodologies from CalEEMod, EMFAC, and the US EPA. Table 4.3-8 provides the annual operational emissions of the project. As illustrated therein, the project would not exceed the EKAPCD operational threshold for any criteria air pollutant. Impacts during operation of the project would be less than significant.

Eastern Kern County is currently in nonattainment for the O₃ CAAQS and NAAQS, and the PM₁₀ CAAQS (see Table 4.3-1). Certain individuals residing in areas that do not meet the CAAQS or NAAQS could be exposed to pollutant concentrations that cause or aggregative acute and/or chronic health conditions (e.g., asthmas, lost work days, premature mortality).

While implementation of the project would contribute to existing and future air pollution, project-generated construction emissions represent approximately 0.35 percent of EKAPCD's NO_x emissions (EKAPCD 2017). Given the small size of this contribution, the specific magnitude and locations of any potential changes in regional O₃ formation, and associated health consequences, from these additional emissions cannot be quantified with any level of certainty due to the dynamic and complex nature of regional pollutant formation and distribution (e.g., meteorology, emissions sources, sunlight exposure). Similar limitations exist for precisely modeling project-level health consequences of directly emitted NO_x. However, it is known that public health will continue to be affected in Eastern Kern County so long as the region does not attain the CAAQS or NAAQS.

TABLE 4.3-8: UNMITIGATED ANNUAL OPERATIONAL EMISSIONS

Emissions Source	Pollutant (tons/year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Daily Operations	<1	<1	<1	<1	5	1
Periodic Panel Washing	<1	<1	<1	<1	<1	<1
Water Hauling	<1	<1	<1	<1	<1	<1
Water Demand	<1	<1	<1	<1	<1	<1
Potable Water Deliveries	<1	<1	<1	<1	<1	<1
Total Emissions	<1	<1	<1	<1	6	1
EKAPCD Threshold	25	25	—	27	15	—
Is Threshold Exceeded?	No	No	—	No	No	—

SOURCE: ICF, 2019.

Cumulative Analysis

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 PM₁₀ 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.

Localized Impacts

As previously discussed, there are 11 projects within a 6-mile radius of the project site that the project applicant has identified as having the potential to contribute to cumulative effects. Three of these are also within the 1-mile radius of the project site. Of the projects identified within a 6-mile radius, four have been approved, three are in process, three are operational, and one is currently in the application phase. Projects that are currently operational were not included in the cumulative construction emissions analysis. These include Holliday Rock Company, RE Rosamond One, and RE Rosamond Two. Due to the lack of specific construction schedules and operational dates, construction and operation of the remaining projects were assumed to be concurrent with the project to provide a conservative analysis.

Cumulative construction and operational emissions associated with the construction and operation of these projects is included, respectively, in **Tables 4.3-9, Cumulative Construction Emissions**, and **4.3-10, Cumulative Operational Emissions**.

As shown in Table 4.3-9, the combined construction emissions from the project and other potential related projects located within 1-mile and 6-mile from the project site would exceed the EKAPCD's significance threshold for NO_x and PM₁₀. Under a conservative scenario where construction schedules for all projects would overlap with each other and with the project, the localized effect would result in cumulatively significant construction NO_x and PM₁₀ emissions.

TABLE 4.3-9: CUMULATIVE CONSTRUCTION EMISSIONS

Project	Criteria Pollutant Emissions (tons per year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Project	2	39	41	<1	39	6
Solar Projects within a 1-Mile Radius						
EDF Renewables Development	3	34	49	<1	42	6
Catalina Solar 2	7	34	38	<1	144	25
IP Solar Company	Not Available					
Projects within a 6-Mile Radius						
Apollo Solar Project	Not Available					
AVEP Solar First Solar	Not Available					
Blue Eagle Lode Mining Company	Not Available					
Camino Solar Project	Not Available					
Kingbird Solar Project	4	21	24	<1	6	1
Total Cumulative Plus Project Emissions	18	142	161	<1	238	40
EKAPCD Threshold	25	25	—	27	15	—
Is Threshold Exceeded?	No	Yes	—	No	Yes	—

SOURCE: ICF, 2019.

SOURCE: ICF, 2019.

With regard to operation, as shown in Table 4.3-10, the combined long-term operational emissions from the project and other potential related projects located within 1-mile and 6-mile from the project site would not exceed the EKAPCD's significance threshold for any pollutants, except PM₁₀. As such, the localized effect would result in cumulatively significant PM₁₀ emissions. Additionally, when the operational emissions for the cumulative projects for which no emissions data are currently available are taken into consideration, there is the potential for the cumulative operational emissions to exceed other EKAPCD significance thresholds as well. Therefore, cumulative operational emissions resulting from the project in combination with other projects would be cumulatively significant. However, as summarized in Table 4.3-10, during operations the proposed project is not expected to exceed thresholds for any nonattainment pollutant. Therefore, the proposed project's contribution to cumulative operational impacts would not be cumulatively considerable.

Consistency with Existing Air Quality Plans

Consistency with the air quality plan, even at the cumulative level, is based on a comparison of project-generated growth in employment, population, and vehicle miles traveled within the region. As stated under Impact 4.3-1, above, the project's NO_x and PM₁₀ emissions during construction would exceed EKAPCD's thresholds. Therefore, these emissions could potentially obstruct EKAPCD's ability to achieve further progress toward attainment of the federal and State ozone standards as well as State PM₁₀ standards. Impacts during construction were considered significant and unavoidable.

TABLE 4.3-10: CUMULATIVE OPERATIONAL EMISSIONS

Project	Criteria Pollutant Emissions (tons per year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Project	<1	<1	<1	<1	6	1
<i>Projects within a 1-Mile Radius</i>						
EDF Renewables Development	<1	<1	<1	<1	5	<1
Catalina Solar 2	<1	2	2	<1	9	1
IP Solar Company	Not Available					
<i>Projects within a 6-Mile Radius</i>						
Apollo Solar Project	Not Available					
AVEP Solar First Solar	Not Available					
Blue Eagle Lode Mining Company	Not Available					
Camino Solar Project	Not Available					
Kingbird Solar Project	<1	<1	<1	<1	<1	<1
RE Rosamond One	<1	<1	<1	<1	<1	<1
RE Rosamond Two						
Total Cumulative Plus Project Emissions	<1	2	3	<1	19	2
EKAPCD Threshold	25	25	—	27	15	—
Is Threshold Exceeded?	No	No	—	No	Yes	—
SOURCE: ICF, 2019.						

With regard to operation, the project is not expected to induce growth or result in trips or criteria pollutant emissions during operation that would conflict with EKAPCD's Ozone Air Quality Management Plan as the project is not expected to exceed thresholds for any nonattainment pollutant. Therefore, the project's incremental contribution to cumulative air quality impacts related to operation would not be cumulatively considerable and would not compromise existing air quality plans. Cumulative impacts would be less than significant.

The power produced by the project would serve to reduce air pollutant emissions within the MDAB, to the extent that the power is used to offset power production from fossil fueled power plants within (or contributory to) the MDAB, and also by providing power to allow the displacement of fossil-fueled engines (such as agricultural pumps) with electrical power units. This power production is not projected within the existing air quality plans; thus, the solar facilities would further aid in reducing air pollutant emissions and increase the potential for attainment of the 1993 Ozone Attainment Plan.

California Air Resources Board (CARB) Air Basin Emissions

To evaluate the contribution of the project's operational emissions relative to the cumulative air quality conditions in Kern County and the MDAB, the project's specific emissions are compared to the 2016 SIP emission projection data for Kern County and the MDAB for the year 2025. As shown in **Table 4.3-11**,

Comparative Analysis Based on 2016 SIP Emission Projection Data, construction and operation emissions would be associated with the project would be negligible compared to total projected emissions for Kern County and the MDAB. In addition, the power produced by the project could serve to reduce air pollutant emissions within the MDAB to the extent that the power is used to offset power production from fossil fueled power plants within (or contributory to) the MDAB, and also by providing power to allow the displacement of fossil-fueled engines (such as agricultural pumps) with electrical power units. Thus, the project's incremental contribution to the MDAB Emissions Inventory would not be cumulatively considerable. Cumulative impacts would be less than significant.

TABLE 4.3-11: COMPARATIVE ANALYSIS BASED ON 2016 SIP EMISSION PROJECTION DATA

Emissions Source	Pollutant (tons/year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Project	<1	<1	<1	<1	6	1
Kern County Portion of the MDAB	3,468	12,410	17,739	1,241	5,877	2,482
Project % Of Kern County	<0.001%	<0.0004%	<0.001%	<0.1%	<0.02%	<0.0001%
MDAB	25,550	54,714	85,607	3,395	56,137	14,527
Project % Of MDAB	<0.0001%	<0.00001%	<0.0003%	<0.00001%	<0.01%	<0.004%
SOURCE: CARB 2019b, CARB 2019c, ICF 2019.						

Cumulative Impacts Summary

The discussion provided evaluates localized impacts, including projects located within a 1- and 6- mile radius; evaluates consistency with existing air quality plans; and compares project emissions to CARB emission projections for the region, consistent with the criterion provided in Kern County's Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports.

Mitigated emissions are summarized in Table 4.3-7. With implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2, construction-generated emissions of NO_x would be reduced to approximately 39 tons/year and emissions of PM₁₀ would be reduced to approximately 39 tons/year. Implementation of the proposed Mitigation Measures would ensure compliance with applicable EKAPCD rules and regulations, including Rule 402 (Fugitive Dust); however, proposed Mitigation Measures would not reduce NO_x or PM₁₀ emissions to below the EKAPCD significance threshold. Mitigation measures would ensure use of only Tier 3 off-road equipment to address exhaust emissions of NO_x and PM₁₀.

Because mitigated NO_x emissions would exceed thresholds, which were developed by EKAPCD in consideration of achieving attainment status under the NAAQS and CAAQS for O₃, construction NO_x emissions from the project would contribute a significant level of air pollution within Kern County and the MDAB.

Mitigation Measures

Kern County

Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-4.

State Lands Commission

Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-4.

Level of Significance after Mitigation

Impacts would be significant and unavoidable for cumulative construction and decommissioning impacts, even with implementation of mitigation. Cumulative impacts related to operations would be less than significant.

4.4.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for biological resources either present or with the potential to be present on the project site. The section includes the physical and regulatory setting for the project; an evaluation of the existing biological conditions on the project site and its vicinity; the criteria used to evaluate the significance of potential impacts on biological resources; the methods used in evaluating these potential impacts; an analysis of potential impacts; and project-specific mitigation. The analysis presented in this section is based on a review of relevant literature, field reconnaissance surveys, and focused biological surveys.

The literature review included information available in peer-reviewed journals, standard reference materials, and relevant databases, including the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (CDFW 2018a), the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (CNPS 2018), National Wetlands Inventory database (USFWS 2018a), and the U.S. Fish and Wildlife Service (USFWS) Threatened and Endangered Species Database and Critical Habitat Portal (USFWS 2018b). The CDFW Special Animals List (CDFW 2018b), and Cornell Lab of Ornithology's eBird database (eBird 2018) were also reviewed to identify other special-status species with potential to occur in the vicinity of the project site based on the habitats that exist. Other sources of information reviewed include the most recent and available United States Geological Survey (USGS) 7.5-minute quadrangle topographic maps (USGS 2018), soil survey maps (NRCS 2019), climatic data (Western Regional Climate Center [WRCC] 2019) and other nearby renewable energy projects in Kern County: RE Garland LLC Solar Project (Rincon 2014), Valentine Solar Project (SWCA 2015), Pacific Wind Energy Project (Sapphos 2009), and RE Kern County Desert Solar Projects (Rincon 2011).

The analysis presented in this section is also based on the 2019 biological technical report (BTR) (ICF 2019a), the 2019 addendum to the BTR (ICF 2019b), and the Jurisdiction Waters Report (Heritage Environmental Consultants 2019) prepared for this project. The 2019 report included a discussion of surveys conducted for biological resources including USFWS protocol surveys for desert tortoise (*Gopherus agassizii*), CDFW protocol surveys for Mohave ground squirrel (*Xerospermophilus mohavensis*), burrowing owl (*Athene cunicularia*) and Swainson's hawk (*Buteo swainsonii*), focused surveys for desert kit fox (*Vulpes macrotis arsipus*), American badger (*Taxidea taxus*), raptor nests, and rare plants, and a general biological resource assessment for the project site, including a 500-foot buffer. The property area, full methodologies, site conditions, and results of all field surveys are detailed in Appendix E of this EIR.

4.4.2 Environmental Setting

Regional Setting

The project site is located in south-eastern Kern County approximately 12 miles south of State Route (SR) 58 and approximately 9 miles east of the Antelope Valley Freeway (SR-14). SR 138 (West Avenue D) is

approximately 8 miles to the south of the project site. The proposed project site is generally bound by Avenue of the Stars to the south, the intersection of 125th Street and Champagne Avenue to the north, 135th Street West to the west, and 105th Street West to the east.

The project site is located within the Mojave Desert, a region that occurs between the southern, low-elevation, hot Sonoran Desert and the northern, high-elevation, relatively cool Great Basin. The Mojave Desert covers more than 40,000 square miles in California, Arizona, Nevada, and Utah.

Climate

The climate within the Mojave Desert region is characterized by hot summer temperatures and low annual precipitation of less than 5 inches. Daily temperature swings of 40° Fahrenheit (F) can occur, with lows in the winter below or near freezing temperatures. Precipitation extremes are also common, with variations of 80 percent in annual precipitation (WRCC 2019). Summer thunderstorms can drop more precipitation on a site in one event than the mean yearly precipitation for that location. High winds can occur, with peak wind velocities above 50 mph not being uncommon and winds of 100 mph occurring yearly (BLM 2005).

Vegetation

Vegetation in the Mojave Desert region where this project is located is influenced by arid climatic conditions, topography, desert soils, and past land uses. Vegetation in the region includes a predominance of plant morphological adaptations to extreme aridity (e.g., waxy or resinous leaf cuticles, drought deciduous or succulent plants, woolly leaf pubescence, deep tap root systems) and saline-alkali soils (e.g., salt excretion, active transport systems). Vegetation structure is characterized by short-statured and widely spaced shrubs, and arborescent shrubs resulting from a competition for soil water resources (Twisselman 1995; Hickman 1993).

Three vegetation types contribute to 75 percent of the land cover in the Mojave Desert region (Davis et al. 1998): Mojave creosote bush scrub (16,398 square miles), Mojave mixed woody scrub (including Joshua tree woodland, 3,646 square miles), and desert saltbush scrub (1,510 square miles). Other vegetation types occurring within the Mojave Desert region and Antelope Valley include desert and valley sink scrub, Mojave Desert wash scrub, and Mojave mixed steppe (Holland 1986). Disturbed or non-native vegetation types within the region include California annual grasslands, agricultural lands, and developed areas.

Desert adapted plant species often show low resilience to disturbance, typically requiring long periods to recover. Often full recovery to a natural community fails, and the community follows successional pathways towards alternative stable states dominated by invasive species (Beisner et al. 2003; Chartier and Rostagno 2006). Portions of the Mojave Desert and Antelope Valley that were at one time cleared for agriculture or other development currently consist of moderate to highly degraded conditions, and often contain a high proportion of associated invasive, nonnative species (Thomas et al. 2004).

Wildlife

The Mojave Desert supports a variety of reptiles, birds and mammals. 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 (*Haemorrhous 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*) and bat species include the California myotis (*Myotis californicus*).

Sensitive Natural Communities

Sensitive natural communities are designated as such by CDFW or occasionally in local policies and regulations, and are generally considered to have important functions or values for wildlife or are recognized as declining in extent and/or distribution. These communities are considered threatened enough to warrant some level of protection. CDFW tracks communities it believes to be of conservation concern through the CNDDDB, and plant alliances or associations with a state rank of S1 through S3 are considered to be sensitive communities by the State.

Surface Hydrology and Jurisdictional Waters

Within the arid and semi-arid western United States, limited precipitation restricts wetland and riparian resources to 1 to 5 percent of the land surface, a relatively low proportion compared to other systems globally. The proportion of wetland resources is even lower (<1 percent) in extremely arid areas such as the Mojave Desert (USACE 2008).

The Antelope Valley is an isolated basin that comprises approximately 1,580 square miles of alluvial valley in the western Mojave Desert. The western Mojave Desert is largely composed of a variety of non-marine sedimentary, pyroclastic, and volcanic rocks, and some marine sediments along the San Andreas fault zone. The project site is located on a broad alluvial slope called a bajada, and is comprised of a network of alluvial fans, active channels, dormant channels, abandoned channels, braided streams, interfluvies, and floodplains that emanate from the Tehachapi range. Alluvial fans are gently sloping fan-shaped landforms that form where steep, confined mountain streams flow out onto a piedmont plain. They often resemble extended fans when viewed on maps or aerial photographs, but their morphology can be irregular forms bounded laterally by adjacent fans, bedrock outcrops, and relict fan surfaces, among other possibilities (House 2005). Stream channels are generally subject to flow path uncertainty due to rapid diversion of one channel to another in response to blockages and changes in sediment accumulation from previous flow events (CDFG 2010). This region of the Mojave is characterized by low precipitation, which rarely allows for surface runoff in the highly porous soils and colluvium. Parent material from mountain sources is generally only mobilized to lower fan areas during localized major storm events. Streams in this region are generally ephemeral to intermittent, and only flow in response to rain events. Because of the high infiltration rates of the sediments, consistent stream flow usually only occurs after periods of steady rain, typically during a wet winter. Heavy floods produce visually definable channels in streambeds, and localized flood events can produce overbank flow transporting sediment and debris onto the floodplain. The project site is in the South Lahontan Hydrologic Region within the Antelope Valley Hydrologic Unit/Watershed. The South Lahontan Hydrologic Region is bound to the north by the drainage divide between Mono Lake and East Walker River, to the west and south by the Sierra Nevada, San Gabriel, San Bernardino and Tehachapi Mountains, and to the east by the State of Nevada. Drainage for most of the watershed in the region is under-ground. Along with the arid climate, this accounts for the presence of many dry lakebeds or playas in the region.

The Antelope Valley Watershed is a closed basin situated within the western Mojave Desert, with a system of Rosamond, Buckhorn, and Rogers dry lakes as the central watershed terminus. Rosamond, Buckhorn, and Rogers Lakes and their tributaries (Antelope Valley Watershed; HUC 10 #s 1809020609 through 1809020624) function as an isolated intrastate watershed system and are non-jurisdictional waters of the United States (USACE 2013).

Wildlife Movement Corridors

Wildlife migration corridors are areas that connect suitable habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features (e.g., canyon drainages, ridgelines, or areas with vegetation cover) provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high-population areas; and facilitate genetic diversity. The CEQA *Guidelines* require that project proponents disclose impacts on wildlife corridors and mitigate for significant impacts. Disturbance to wildlife corridors, particularly as a result of human disturbance and development, can cause harm to migrating species, cause species to exceed local population thresholds, and/or prevent healthy gene flow between populations.

Local Setting

The project site is situated on the gentle south facing slopes below the Tehachapi Mountains. The elevation of the project site ranges from approximately 2,600 to 3,100 feet above mean sea level (amsl) means that its temperature regime is somewhat cooler and moister than most areas of the Mojave Desert, with summer high temperatures averaging approximately 95°F and average annual rainfall between 7 and 8 inches (WRCC 2019). This area is geographically defined by the intersection of the San Andreas and Garlock faults and situated east of where the Tehachapi Mountains meet the Transverse Range. Soils in the project site are all generally loamy sand, slightly to moderately alkaline, coarse, and well drained. The Catalina Renewable Energy Project (Catalina Solar 1), Catalina Solar 2, Pacific Wind Energy, and Manzanita Wind Power projects are currently in operation to the north and west of the site. Although relatively undisturbed land is present directly to the west, nearly all the land off the west border of the project site include the Valentine Solar Project (SWCA 2015), which is currently under construction. The large tracts of land directly to the south and east of the project remain undeveloped, although some areas have been disturbed by past or current agricultural activities.

Plant Communities

A total of 105 plant species were identified on the project site or within the 500-foot survey buffer during the biological surveys conducted in 2018. Nine vegetation communities and land cover types occur within the project site as detailed in **Table 4.4-1, *Vegetation Community and Land Cover Types on the Project Site and 500-Foot Buffer***. The mapped vegetation communities and land cover types were defined using nomenclature from Holland (Holland 1986). The vegetation communities present were mapped using a minimum mapping unit of 0.25 acre. Holland does not have classifications for areas mostly devoid of vegetation, or for vegetation communities dominated by non-native plants unless they have potential habitat value for native species. Such areas do not have standard set of descriptors and are described as “land cover” types in the BTR. A complete list of plant species identified on the project site during site surveys is provided in **Table 4.4-2, *Plant Species Observed***. Acreages of vegetation communities and land cover types are provided in Table 4.4-1, *Vegetation Community and Land Cover Types on the Project Site and 500-Foot Buffer*. A description of the vegetation communities and land cover types are provided below the table.

TABLE 4.4-1: VEGETATION COMMUNITY AND LAND COVER TYPES ON THE PROJECT SITE AND 500-FOOT BUFFER

Vegetation Community or Land Cover Type	Project Footprint plus Original Gen-tie Acreage^a	Approximate Acreage in Gen-tie^b Option 1	Approximate Acreage in Gen-tie^c Option 2	Approximate Acreage in Gen-tie^d Option 3	Approximate Acreage in Gen-tie^e Option 4
Mojave Creosote Bush Scrub with Joshua Trees	3,233.10	627.88	246.59	653.90	1,232
Mojave Creosote Bush Scrub with Joshua Trees – Disturbed	671.29	0.47	29.54	6.90	N/A
Mojave Desert Wash Scrub	N/A ^e	2.24	0.20	34.41	4
Mojave Mixed Woody Scrub	N/A	N/A	N/A	N/A	55
Mojavean Juniper Woodland and Scrub	N/A	N/A	N/A	N/A	1
Rabbitbush Scrub	2.78	0.85	N/A	92.36	12
Rabbitbush Scrub – Disturbed	14.11	N/A	N/A	N/A	N/A
Desert Saltbush Scrub	344.30	N/A	N/A	N/A	N/A
Desert Saltbush Scrub – Disturbed	33.23	N/A	N/A	N/A	N/A
Field/Pasture	4.47	N/A	N/A	N/A	N/A
Disturbed Habitat – Bare Ground	15.15	N/A	N/A	25.56	N/A
Disturbed Habitat – Ruderal	96.31	N/A	N/A	N/A	N/A
Urban/Developed	586.45	201.10	44.62	91.19	50
Total	5,001.19	832.54	320.95	904.32	1,354.00

^a Initial project footprint and original proposed gen-tie line, plus a 500-foot buffer outlined in ICF 2019a BTR.

^b Option 1 includes three suboptions with total survey coverage of all parcels surrounding the proposed gen-tie line, plus a 500-foot buffer, to allow for project development flexibility as described in ICF 2019b Addendum.

^c Option 2 includes the gen-tie alternative and a 500-foot buffer, plus the proposed substation facility as described in ICF 2019b Addendum.

^d Option 3 includes the gen-tie alternative with one suboption, plus a 500-foot buffer as described in ICF 2019b Addendum.

^e Option 4 is the gen-tie alternative where data was obtained from surveys performed for the Valentine Project (EI 2017) and includes acreages for both alternative gen-tie routes for the Valentine Project: the eastern route (Option 4) and the western route (not assessed in this report), plus a 500-foot buffer.

^f “N/A” indicates that this habitat type was not mapped within the original proposed project footprint/gen-tie line or gen-tie alternative routes.

SOURCES: ICF, 2019a; ICF, 2019b; EI, 2017.

TABLE 4.4-2: PLANT SPECIES OBSERVED

Scientific Name	Common Name	Special Status
GYMNOSPERMS		
Ephedraceae - Ephedra family		
<i>Ephedra nevadensis</i>	Nevada ephedra	
EUDICOTS		
Amaranthaceae - Amaranth family		
* <i>Amaranthus albus</i>	Tumbleweed	
Asteraceae - Sunflower family		
<i>Acamptopappus sphaerocephalus</i>	Rayless goldenhead	
<i>Ambrosia acanthicarpa</i>	Annual bur-sage	
<i>Ambrosia dumosa</i>	White bur-sage	
<i>Artemisia californica</i>	California sagebrush	
<i>Artemisia dracunculus</i>	Tarragon sagebrush	
<i>Baccharis salicifolia</i>	Mule fat	
* <i>Centaurea melitensis</i>	Tocalote	
<i>Chaenactis fremontii</i>	Fremont's pincushion	
<i>Ericameria cooperi</i>	Cooper's goldenbush	
<i>Ericameria nauseosa</i>	Rubber rabbitbrush	
<i>Eriophyllum wallacei</i>	Wallace's woolly sunflower	
<i>Gutierrezia microcephala</i>	Sticky snakeweed	
<i>Helianthus annuus</i>	Annual sunflower	
* <i>Lactuca serriola</i>	Prickly lettuce	
<i>Lasthenia californica</i>	California goldfields	
<i>Leptosyne bigelovii</i>	Bigelow's tickseed	
<i>Lessingia glandulifera</i> var. <i>glandulifera</i>	Valley lessingia	
<i>Logfia depressa</i>	Dented cottonrose	
<i>Malacothrix californica</i>	California desert dandelion	
* <i>Matricaria discoidea</i>	Pineapple weed	
<i>Stephanomeria exigua</i>	Small wire-lettuce	
<i>Stephanomeria pauciflora</i>	Few flower wire-lettuce	
<i>Syntrichopappus fremontii</i>	Fremont's syntrichopappus	
<i>Tetradymia stenolepis</i>	Mojave horsebrush	
<i>Xylorhiza tortifolia</i>	Mojave-aster	

TABLE 4.4-2: PLANT SPECIES OBSERVED

Scientific Name	Common Name	Special Status
Boraginaceae - Borage family		
<i>Amsinckia menziesii</i>	Menzies's fiddleneck	
<i>Amsinckia tessellata</i>	Bristly fiddleneck	
<i>Cryptantha circumscissa</i>	Cushion cryptantha	
<i>Cryptantha micrantha</i>	Redroot cryptantha	
<i>Cryptantha muricata</i>	Pointed cryptantha	
<i>Heliotropium curassavicum</i> var. <i>oculatum</i>	Alkali heliotrope	
<i>Pectocarya linearis</i>	Sagebrush combseed	
<i>Pectocarya platycarpa</i>	Wide-toothed pectocarya	
<i>Pectocarya setosa</i>	Round-nut pectocarya	
<i>Phacelia distans</i>	Wild heliotrope phacelia	
<i>Plagiobothrys arizonicus</i>	Arizona popcornflower	
Brassicaceae - Mustard family		
<i>Caulanthus lasiophyllus</i>	Woolly leaf jewelflower	
* <i>Hirschfeldia incana</i>	Shortpod mustard	
* <i>Sisymbrium altissimum</i>	Tumble mustard	
Cactaceae - Cactus family		
<i>Cylindropuntia echinocarpa</i>	Silver cholla	
<i>Opuntia basilaris</i> var. <i>basilaris</i>	Beavertail cactus	
Chenopodiaceae - Goosefoot family		
<i>Atriplex canescens</i>	Four-wing saltbush	
<i>Atriplex polycarpa</i>	Allscale saltbush	
* <i>Chenopodium album</i>	Lamb's quarters	
<i>Grayia spinosa</i>	Spiny hopsage	
<i>Krascheninnikovia lanata</i>	Winter fat	
* <i>Salsola tragus</i>	Prickly russian thistle	
Convolvulaceae - Morning-glory family		
* <i>Convolvulus arvensis</i>	Bindweed, orchard morning-glory	
Cucurbitaceae - Gourd family		
<i>Marah macrocarpa</i>	Large fruit wild cucumber	
Euphorbiaceae - Spurge family		
<i>Croton setigerus</i>	Doveweed	
<i>Euphorbia albomarginata</i>	White margin spurge	

TABLE 4.4-2: PLANT SPECIES OBSERVED

Scientific Name	Common Name	Special Status
Fabaceae - Legume family		
<i>Astragalus lentiginosus</i> var. <i>variabilis</i>	Variable freckled milkvetch	
<i>Lupinus bicolor</i>	Miniature lupine	
<i>Lupinus microcarpus</i>	Chick lupine	
Geraniaceae - Geranium family		
* <i>Erodium cicutarium</i>	Redstem filaree	
Lamiaceae - Mint family		
<i>Salvia carduacea</i>	Thistle sage	
<i>Salvia columbariae</i>	Chia	
Loasaceae - Loasa family		
<i>Mentzelia affinis</i>	White blazing star	
<i>Mentzelia veatchiana</i>	Veatch's blazing star	
Montiaceae - Purslane family		
<i>Calyptidium monandrum</i>	Common pussypaws	
Nyctaginaceae - Four O'clock family		
<i>Mirabilis laevis</i>	Wishbone plant	
Onagraceae - Evening Primrose family		
<i>Camissonia campestris</i> ssp. <i>campestris</i>	Mojave suncup	
<i>Camissoniopsis pallida</i>	Paleyellow suncup	
<i>Chylismia claviformis</i>	Cutleaf suncup	
Papaveraceae - Poppy family		
<i>Eschscholzia minutiflora</i>	Pygmy poppy	
Polemoniaceae - Phlox family		
<i>Eriastrum sapphirinum</i>	Sapphire woollystar	
<i>Eriastrum</i> sp.	Woollystar	
<i>Gilia brecciarum</i>	Break gilia	
<i>Leptosiphon aureus</i>	Golden leptosiphon	
<i>Loeseliastrum matthewsii</i>	Desert calico	
Polygonaceae - Buckwheat family		
<i>Centrostegia thurberi</i>	Red triangles	
<i>Chorizanthe brevicornu</i>	Brittle spineflower	
<i>Chorizanthe spinosa</i>	Mojave spineflower	CRPR 4.2
<i>Eriogonum angulosum</i>	Angle-stem buckwheat	
<i>Eriogonum elongatum</i>	Longstem buckwheat	

TABLE 4.4-2: PLANT SPECIES OBSERVED

Scientific Name	Common Name	Special Status
<i>Eriogonum fasciculatum</i>	California buckwheat	
<i>Eriogonum inflatum</i>	Desert Trumpet	
<i>Eriogonum mohavense</i>	Western Mojave buckwheat	
<i>Mucronea perfoliata</i>	Perfoliate spineflower	
* <i>Rumex crispus</i>	Curly dock	
Ranunculaceae - Buttercup family		
<i>Delphinium</i> sp.	Larkspur	
Solanaceae - Nightshade family		
<i>Datura wrightii</i>	Wright's jimsonweed	
<i>Lycium andersonii</i>	Anderson's box-thorn	
<i>Lycium cooperi</i>	Cooper's box-thorn	
* <i>Nicotiana glauca</i>	Tree tobacco	
Tamaricaceae - Tamarisk family		
* <i>Tamarix ramosissima</i>	Hairy tamarix	
Zygophyllaceae - Caltrop family		
<i>Larrea tridentata</i>	Creosote bush	
MONOCOTS		
Agavaceae - Century Plant family		
<i>Yucca brevifolia</i>	Joshua tree	
Liliaceae - Lily family		
<i>Calochortus striatus</i>	Alkali mariposa lily	CRPR 1B.2
Poaceae - Grass family		
* <i>Avena sativa</i>	Cultivated oat	
<i>Bromus berterioanus</i>	Chilean brome	
* <i>Bromus diandrus</i>	Ripgut brome	
* <i>Bromus madritensis</i>	Compact brome	
* <i>Bromus tectorum</i>	Cheat grass	
* <i>Cynodon dactylon</i>	Bermuda grass	
<i>Elymus elymoides</i>	Squirreltail wildrye	
* <i>Festuca myuros</i>	Rattail fescue	
* <i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley	
* <i>Hordeum vulgare</i>	Commercial barley	
<i>Poa secunda</i>	One-sided blue grass	
<i>Stipa hymenoides</i>	Indian rice grass	

TABLE 4.4-2: PLANT SPECIES OBSERVED

Scientific Name	Common Name	Special Status
* <i>Stipa miliacea</i>	Smilo grass	
<i>Stipa speciosa</i>	Desert needle grass	
LEGEND: * Non-native or invasive species Special Status: <u>Federal:</u> FE = Endangered FT = Threatened <u>State:</u> SE = Endangered ST =Threatened		CRPR – California Rare Plant Rank 1A. Presumed extinct in California and elsewhere 1B. Rare or Endangered in California and elsewhere 2A. Presumed extinct in California, more common elsewhere 2B. Rare or Endangered in California, more common elsewhere 3. Plants for which we need more information - Review list 4. Plants of limited distribution - Watch list Threat Ranks .1 - Seriously endangered in California .2 – Fairly endangered in California .3 – Not very endangered in California
SOURCE: ICF, 2019a.		

Mojave Creosote Bush Scrub with Joshua Trees

Mojave creosote bush scrub with Joshua trees is a widely spaced vegetation community, usually with bare ground between shrubs and a large diversity of spring ephemeral herbs flowering in late March and April, if winter rains are sufficient (Holland 1986). Shrub canopy height ranges from 1.5–10 feet tall. Mojave creosote bush scrub with Joshua trees in the project site or within the 500-foot survey buffer is co-dominated by creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), and Nevada ephedra (*Ephedra nevadensis*), with a highly diverse composition of non-dominant shrubs, succulents, and perennial grasses such as California buckwheat (*Eriogonum fasciculatum*), Cooper’s box thorn (*Lycium cooperi*), winter fat (*Krascheninnikovia lanata*), Mojave cottonthorn (*Tetradymia stenolepis*), hop sage (*Grayia spinosa*), beavertail cactus (*Opuntia basilaris* var. *basilaris*), cheesebush (*Ambrosia salsola*), Indian rice grass (*Stipa hymenoides*), and one sided blue grass (*Poa secunda*). In addition, Joshua trees occur throughout this vegetation community. Joshua trees, though very conspicuous, negligibly contribute to the overall percent cover but remain a significant component of this vegetation community because they are the only arborescent species within the over-story. Mojave creosote bush scrub integrates with both Mojave mixed woody shrub and Joshua tree woodlands (Holland 1986). However, both of these communities lack creosote bush as a dominant shrub, which is characteristic of the Mojave creosote bush scrub with Joshua trees observed within the project site or within the 500-foot survey buffer. Mojave creosote bush scrub within the project site or within the 500-foot survey buffer exists in tracts of varying quality and species composition because of various past disturbances, including grazing, fire, and mechanical disturbance. Disturbed Mojave creosote bush scrub with Joshua trees is characterized by reduced native shrub diversity, often with buckwheat becoming more prevalent, along with a higher cover of weedy non-native annual grasses and forbs. These disturbed areas are denoted as “Disturbed” on the vegetation map. Mojave creosote bush scrub is widespread throughout the project site and was the most common vegetation community encountered with Joshua trees.

Mojave Desert Wash Scrub

Mojave desert wash scrub is a low-growing, microphyllous shrub community with an open to intermittent canopy and herbaceous understory that is often dominated by desert willow (*Chilopsis linearis*) and/or smoke tree (*Psoralea arguta*). It is found on sandy bottoms of washes, arroyos, and canyons with well-drained sands and gravels that are moderately to slightly acidic (Holland 1986). Shrub canopy height is typically below 6 feet. Within the project site gen-tie options, Mojave desert wash scrub was dominated by several species including California broomsage (*Lepidospartum squamatum*), cheesebush, Acton encelia (*Encelia actoni*), and rubber rabbitbrush (*Ericameria nauseosa*). The understory was composed primarily of native, annual species such as Schott's calico (*Loeseliastrum schottii*), annual bur-sage (*Ambrosia acanthicarpa*), and buckwheat (*Eriogonum* spp.), as well as nonnative grasses and forbs. This vegetation community occurs within a large drainage system at the western end of Option 3, as well as along two smaller ephemeral desert washes, one located in the middle of Option 1 and the other near the eastern end of Option 2.

Mojave Mixed Woody Scrub

Mojave Mixed Woody Scrub is characterized by a diversity of species, generally open, shallow soils with low water-holding capacity, and dominated by plants such as California buckwheat (*Eriogonum fasciculatum*), Joshua tree, and other woody plant species. This type of elevation typically occurs at elevations between 2,000 and 5,000 feet. Mojave Mixed Woody Scrub occurs along the eastern base of the Sierra Nevada Mountains and around the Tehachapi, San Gabriel, San Bernardino, and San Jacinto mountain ranges. Under Option 4, this vegetation community occurs within the main project area, the access road, and the gen-tie route.

Mojavean Juniper Woodland and Scrub

Mojavean Juniper Woodland and Scrub is typically characterized by open woodland dominated by California juniper (*Juniperus californicus*) with an understory of diverse Mojave Mixed Scrub and steppe species. This plant community usually occurs between 4,000 and 6,000 feet above sea level in Southern California, where it is known from the southern Sierra Nevada and Tehachapi Mountains and the Mojave Desert. Under Option 4, this vegetation community only occurs along the gen-tie route.

Rabbitbush Scrub

Rabbitbush scrub is a disturbance-maintained shrub community that is dominated by rubber rabbitbush, usually with fairly evenly spaced gray shrubs that flower in late summer or fall (Holland 1986). Shrub canopy height ranges from 1–3.5 feet. Rabbitbush scrub within the project site was dominated by rubber rabbitbush, with associated shrubs such as Cooper's goldenbush (*Ericameria cooperi*) and matchweed (*Gutierrezia microcephala*) commonly found within this community. The understory was composed mainly of non-native grasses and forbs. Small patches of rabbitbush scrub occurred in disturbed areas adjacent to road sides and vacant lots in the southern and eastern portions of the project site and are denoted as "Disturbed" on the vegetation map.

Desert Saltbush Scrub

Desert saltbush scrub is a low-growing, grayish microphyllous shrub community found on fine-textured, poorly drained soils with high alkalinity, with stands typically dominated by a single *Atriplex* species

(Holland 1986). Shrub canopy height ranges from 1–3.5 feet. Within the project site, desert saltbush scrub was dominated by allscale saltbush (*Atriplex polycarpa*), with associated species such as rubber rabbitbush, matchweed, wirelettuce (*Stephanomeria pauciflora*), and shadescale (*Atriplex confertifolia*). The understory was composed primarily of annual non-native grasses and forbs. Desert saltbush scrub exists in tracts of varying quality and species composition. Disturbed desert saltbush scrub within the project area is characterized by reduced native shrub cover, with higher cover from weedy non-native annual grasses and forbs, and denoted as “Disturbed” on the vegetation map. Two CRPR plant species were observed in this community within the project area: alkali mariposa lily (*Calochortus striatus*) (CRPR 1B.2) and Mojave spineflower (*Chorizanthe spinosa*) (CRPR 4.2). The community is the second most commonly encountered vegetation type, located predominantly along the southern access routes within the project site.

Field/Pasture

Field/Pasture consists of typically monoculture crops, forming a dense cover of vegetation that is irrigated and usually artificially seeded and maintained. Crops such as oats (*Avena* spp.), barley (*Hordeum* spp.), rye (*Lolium* spp.), grain sorghum (*Sorghum bicolor*), and alfalfa (*Medicago sativa*) are typically grown. Field/pasture areas make up a small portion of the project study area and are located within the buffer of the project site, at the eastern edge of the proposed access route along Hamilton Road.

Disturbed Habitat

Disturbed habitat consists of areas that have experienced persistent mechanical disturbance, resulting in severely limited native plant growth, and are void of vegetation altogether (e.g., bare ground) or may have a high percentage cover of non-native weedy broadleaf species (e.g., ruderal) or sparsely distributed native vegetation.

Bare Ground

Bare ground is usually completely devoid of vegetation or sparsely covered with disturbance-loving plant species and characterized by bare topsoil or subsoil resulting from previous mechanical or natural disturbance, such as fire or flooding. Bare ground within the project site consists of abandoned dirt lots and roads as well as recently cleared areas that are planned for development or equipment staging.

Ruderal

Ruderal areas are defined as non-native vegetation communities dominated by disturbance-loving plant species that typically do not naturally and historically occur in the region. Some non-native species may be characterized as invasive because of their ability to outcompete and displace native species. Ruderal vegetation within the project area typically consists of broadleaf weeds, such as shortpod mustard (*Hirschfeldia incana*), Russian thistle (*Salsola tragus*), and tumbleweed (*Amaranthus albus*), but also includes mature non-native trees that are scattered across the landscape, such as pepper (*Schinus* spp.), eucalyptus (*Eucalyptus* spp.), and salt cedar (*Tamarix* spp.). Although this community may provide some support of native animal species in the form of shelter, foraging habitat, and roosting or nesting habitat, it is generally understood to degrade natural conditions and may result in the exclusion of certain native animal species that are dependent on natural plant species and habitats for their survival. Ruderal areas within the project site occur along the proposed access roads, primarily within the southern portion of the project footprint.

Urban/Developed

Urban/developed land cover is characterized by areas that have been built upon or otherwise physically altered to the extent that native vegetation is no longer supported. Urban/developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. Areas where no natural land is evident because of a large amount of debris or other materials being placed upon it may also be considered urban/developed (e.g., equipment staging area, quarry). Little to no vegetation occurs in these areas, other than ruderal, disturbance-loving species and a variety of ornamental (usually non-native) plants.

Wildlife Species

A total of 87 species of wildlife were detected, the majority of which were birds, followed in species richness by reptiles and mammals. A complete list of species observed during project surveys is provided in Appendix D-2 of the BTR. A full copy of the BTR is provided in Appendix X of this EIR.

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 species include the following:

- Species listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA).
- Species that meet the definitions of rare or endangered under *California Environmental Quality Act (CEQA) Guidelines* Section 15380.
- All of the plants constituting California Rare Plant Rank (CRPR) 1B and Rank 2B meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act [NPPA]) or Sections 2062 and 2067 (CESA) of the Fish and Game Code, and are eligible for state listing. Many CRPR 4 species do not meet the definitions of special-status plants but may be significant locally and are recommended for consideration under CEQA (CNPS 2001).
- Wildlife designated by the CDFW as “species of special concern” or “special animals.”
- Wildlife “fully protected” in California (Fish and Game Code Sections 3511, 4700, and 5050).
- Wildlife species protected as “fur-bearing mammals” (Fish and Game Code Section 4000 *et seq.*).
- Native desert plants protected under the California Desert Native Plant Protection Act (California Food and Agriculture Code, Sections 80001-80006, Division 23).
- Species and open lands that are identified in the Kern County General Plan (Kern County 2009) and the Willow Springs Specific Plan (Kern County 2008).

A complete list of special-status plant and wildlife species that have the potential to occur on the project site provided in **Table 4.4-3, *Special-Status Species and Habitats of Concern Potential to Occur***, **Table 4.4-4, *Special-Status Plant Species with the Potential to Occur on the Project Site***, and **Table 4.4-5, *Special-Status Wildlife Species with the Potential to Occur on the Project Site***, summarize the special-status plant and wildlife species, respectively, that were evaluated for their potential to occur within the project site. Species with no potential (not expected to occur) to occur on the project site were excluded from further analysis. The “Potential to Occur” categories indicated in Table 4.4-4 and Table 4.4-5 are defined as follows:

- **Low:** Records for this species exist within 5 miles of the project site, but the habitats or environmental conditions needed to support the species do not exist or are very limited, isolated, or highly disturbed within the project site. Low potential to occur may also be used when species records are very old (pre-1980s), regardless of habitat conditions within the project site. For special-status plants, low potential may also be used when the plant was not observed during focused rare plant surveys, and its lack of detectability may be due to environmental limitations such as drought or annual variability in germination (i.e., bulbiferous perennials, annuals).
- **Moderate:** Records for this species exist within 1–5 miles of the project site; however, habitats or environmental conditions needed to support the species are limited within the project site. Species records indicate few previously documented occurrences within 1 mile of the project site.
- **High:** Records for this species exist within 1 mile of the project site, and habitats or environmental conditions needed to support the species exist within the project site. Species records indicate previously documented occurrences within 1 mile of the project site.
- **Present:** Species observed on or near the project site during focused surveys or other site visits.

TABLE 4.4-3: SPECIAL-STATUS SPECIES AND HABITATS OF CONCERN POTENTIAL TO OCCUR

Common Name/ (<i>Scientific Name</i>)	Status: Federal/ State/ CRPR ^a	Species Requirements	Specific Habitat Present/ Absent ^b	Rationale
Plants				
Mt. Pinos Onion (<i>Allium howellii</i> var. <i>clokeyi</i>)	—/—/1B.3	This perennial bulbiferous herb is found in Great Basin scrub, meadows and seeps (edges), and pinyon and juniper woodland habitats. It blooms from April through June at elevations from 4,265 feet to 6,070 feet above mean sea level (amsl).	HA	Not expected to occur. Suitable habitat does not exist within the project survey areas (PSA) and the PSA is well below the elevation range of this species.
Horn's Milk-Vetch (<i>Astragalus hornii</i> var. <i>hornii</i>)	—/—/1B.1	This annual herb is found in alkaline areas within meadows and seeps and playas/lake margins. Occurs at elevations from 195 feet to 2,790 feet amsl. Blooms from May through October.	HP	Low potential. Suitable habitat for this species (alkali seeps and hummocks) is present in scattered locations throughout the PSA. This species was not observed during 2018 focused rare plant surveys.
Palmer's Mariposa Lily (<i>Calochortus palmeri</i> var. <i>palmeri</i>)	—/—/1B.2	This perennial bulbiferous herb occurs in mesic areas within chaparral, lower montane coniferous forest, and meadows and seeps at elevations ranging from 2,325 feet and 7,840 feet amsl. It blooms from April through July.	HA	Not expected to occur. Suitable habitat does not exist within the PSA.
Alkali Mariposa Lily (<i>Calochortus striatus</i>)	—/—/1B.2	This perennial bulbiferous herb can be found in chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps in alkaline and mesic areas between 230 feet and 5,240 feet amsl in elevation. The blooming period is from April through June.	P	Present. Suitable habitat and alkaline areas are present within the PSA. This species was observed within the PSA along the proposed access roads during the 2018 focused rare plant surveys.
Peirson's Morning-glory (<i>Calystegia peirsonii</i>)	—/—/4.2	This perennial rhizomatous herb can be found within chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. Occurs at an elevation of 95 feet to 4,920 feet amsl and blooms between April and June.	HP	Moderate potential. Suitable habitat is present within the PSA. This species was not observed during 2018 focused rare plant surveys.

TABLE 4.4-3: SPECIAL-STATUS SPECIES AND HABITATS OF CONCERN POTENTIAL TO OCCUR

Common Name/ (Scientific Name)	Status: Federal/ State/ CRPR^a	Species Requirements	Specific Habitat Present/ Absent^b	Rationale
Kern County Evening Primrose (<i>Camissonia kernensis</i> ssp. <i>kernensis</i>)	—/—/4.3	This annual herb is known to occur in sandy, gravelly, or granitic areas within chaparral, Joshua tree woodland, and pinyon and juniper woodland habitats. Elevation ranges from 2,590 feet to 6,990 feet amsl. Blooms from March through May.	HP	Low potential. Marginally suitable habitat is present in scattered locations throughout the PSA where Joshua trees are present. However, actual Joshua tree woodlands are not present in the site and the nearest known location of this habitat type is over 20 miles away. This species was not observed during 2018 focused rare plant surveys.
White Pygmy-Poppy (<i>Canbya candida</i>)	—/—/4.2	This annual herb is found in gravelly, sandy, and granitic soils within Joshua tree woodland, Mojavean desert scrub, and Pinyon and juniper woodland habitats between 1,968 feet and 4,790 feet amsl in elevation. Blooming period is from March through June.	HP	Moderate potential. Suitable habitat is present within the PSA. This species was not observed during 2018 focused rare plant surveys.
Mojave Spineflower (<i>Chorizanthe spinosa</i>)	—/—/4.2	This annual herb occurs in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas, often in alkaline areas, between 20 feet and 4,265 feet amsl in elevation. Blooming period is from March through July.	P	Present. Suitable habitat and alkaline areas are present within the PSA. This species was observed within the PSA along the proposed access roads during the 2018 focused rare plant surveys.
Short-Bracted Bird's-Beak (<i>Cordylanthus rigidus</i> ssp. <i>brevibracteatus</i>)	—/—/4.3	This hemiparasitic annual herb occurs within openings and granitic areas in chaparral, lower and upper montane coniferous forest, and pinyon and juniper woodland habitats at elevations ranging from 2,000 feet to 8,495 feet amsl. It typically blooms from July to August, and occasionally into October.	HA	Not expected to occur. Suitable habitat and granitic areas do not exist within the PSA.
Clokey's Cryptantha (<i>Cryptantha clokeyi</i>)	—/—/1B.2	This annual herb is found in Mojavean desert scrub on rocky to gravelly slopes, ridge crests, and desert woodland between 2,370 feet and 4,480 feet amsl in elevation. This species blooms in April.	HP	Moderate potential. Marginally suitable habitat is present within the PSA. This species was not observed during 2018 focused rare plant surveys.

TABLE 4.4-3: SPECIAL-STATUS SPECIES AND HABITATS OF CONCERN POTENTIAL TO OCCUR

Common Name/ (Scientific Name)	Status: Federal/ State/ CRPR^a	Species Requirements	Specific Habitat Present/ Absent^b	Rationale
Mt. Pinos Larkspur (<i>Delphinium parryi</i> ssp. <i>purpureum</i>)	—/—/4.3	This perennial herb is known to occur in chaparral, Mojavean desert scrub, and pinyon and juniper habitats. It is found at elevations ranging from 3,280 feet to 8,530 feet amsl. The blooming period is from May through June.	HA	Not expected to occur. Suitable Mojave desert scrub habitat is present within the PSA; however, the PSA is just below the elevation range of this species. In addition, this species was not observed during 2018 focused rare plant surveys.
Recurved Larkspur (<i>Delphinium recurvatum</i>)	—/—/1B.2	This perennial herb is known to occur in alkaline areas within chenopod scrub, cismontane woodland, and valley and foothill grasslands. It is found at elevations ranging from 5 feet to 2,590 feet amsl and blooms from March through June.	HP	Moderate potential. Suitable habitat (chenopod scrub) and alkaline areas are present in scattered locations throughout the PSA. This species was not observed during 2018 focused rare plant surveys. However, old fruiting capsules of a <i>Delphinium</i> species were found during the 2018 surveys. Based on the fruiting characteristics of capsule, as well as the potentially suitable habitat within the PSA and known range of this species, it is possible that the skeletal remains of the plant observed is recurved larkspur.
Calico Monkeyflower (<i>Diplacus pictus</i>)	—/—/1B.2	This annual herb is found in broadleafed upland forest and cismontane woodland habitats within granitic and disturbed areas. It occurs at elevations ranging from 325 feet to 4,690 feet amsl and blooms from March through May.	HA	Not expected to occur. Suitable habitat and granitic areas do not exist within the PSA.
Rosamond Eriastrum (<i>Eriastrum rosamondense</i>)	—/—/1B.1	This annual herb is found in the openings of chenopod scrub and along the edges of vernal pools in alkaline hummocks in areas that are often sandy. It occurs at elevations ranging from 2,295 feet to 2,345 feet amsl. This species typically blooms from April through May, and occasionally from June to July.	HP	Low potential. Suitable habitat for this species (alkali seeps and hummocks) is present in scattered locations throughout the PSA. This species was not observed during 2018 focused rare plant surveys.

TABLE 4.4-3: SPECIAL-STATUS SPECIES AND HABITATS OF CONCERN POTENTIAL TO OCCUR

Common Name/ (Scientific Name)	Status: Federal/ State/ CRPR^a	Species Requirements	Specific Habitat Present/ Absent^b	Rationale
Tracy's Eriastrum (<i>Eriastrum tracyi</i>)	—/R/3.2	This annual herb generally occurs in chaparral, cismontane woodland, and valley and foothill grassland habitats. Elevations range from 1,030 feet to 5,840 feet amsl. It blooms from May through July.	HA	Not expected to occur. Suitable habitat does not exist within the PSA.
Sierra Nevada Monkeyflower (<i>Erythranthe sierrae</i>)	—/—/4.2	This annual herb is found in openings of cismontane woodland and lower montane coniferous forest, and dry areas of meadows and seeps within areas that are usually granitic, usually sandy, sometimes gravelly, vernal wet depressions, swales, and streambanks. It occurs at elevations ranging from 605 feet to 7,495 feet amsl. and blooms from March through July.	HA	Not expected to occur. Suitable habitat does not exist within the PSA.
Greenhorn Fritillary (<i>Fritillaria brandegeei</i>)	—/—/1B.3	This perennial bulbiferous herb is found in granitic areas within lower montane coniferous forest at elevations ranging from 4,360 feet to 6,890 feet amsl. The blooming period for this species is from April through June.	HA	Not expected to occur. Suitable habitat does not exist within the PSA and the PSA is well below the elevation range of this species.
Pine Fritillary (<i>Fritillaria pinetorum</i>)	—/—/4.3	This perennial bulbiferous herb occurs in granitic or metamorphic areas within chaparral, lower montane coniferous forest, pinyon and juniper woodland, subalpine coniferous forest, and upper montane coniferous forest habitats at elevations ranging from 5,690 feet to 10,825 feet amsl. This species typically blooms from May through July, and occasionally into September.	HA	Not expected to occur. Suitable habitat does not exist within the PSA and the PSA is well below the elevation range of this species.
Golden Goodmania (<i>Goodmania luteola</i>)	—/—/4.2	This annual herb is found in alkaline and clay soils within Mojavean desert scrub, meadows and seeps, playas, and valley and foothill grassland habitats. It occurs at elevations between 65 feet and 7,220 feet amsl and blooms between April and August.	HP	High potential. Suitable habitat and alkaline areas are present within the PSA. This species was not observed during 2018 focused rare plant surveys.

TABLE 4.4-3: SPECIAL-STATUS SPECIES AND HABITATS OF CONCERN POTENTIAL TO OCCUR

Common Name/ (Scientific Name)	Status: Federal/ State/ CRPR^a	Species Requirements	Specific Habitat Present/ Absent^b	Rationale
Coulter's Goldfields (<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>)	—/—/1B.1	This annual herb is found in coastal salt marshes and swamps, playas, and vernal pools. It occurs in elevations ranging from sea level to 4,005 feet amsl and blooms from February through June.	HA	Not expected to occur. Suitable habitat does not exist within the PSA.
Pale-Yellow Layia (<i>Layia heterotricha</i>)	—/—/1B.1	This annual herb is found in open areas containing alkaline or clay soils within cismontane woodland, pinyon-juniper woodland, and valley and foothill grassland habitats. It occurs at elevations ranging from 980 feet to 5,595 feet amsl and blooms from March through June.	HP	Low potential. Marginally suitable habitat is present within the PSA. This species was not observed during 2018 focused rare plant surveys.
Sagebrush Loeftlingia (<i>Loeftlingia squarrosa</i> var. <i>artemisiarum</i>)	—/—/2B.2	This annual herb is found in sandy areas within desert dune, Great Basin scrub, and Sonoran desert scrub habitats. It is known from elevations ranging from 2,295 feet to 5,300 feet amsl. Its blooming period ranges from April through May.	HP	Moderate potential. Suitable habitat is present within the PSA. This species was not observed during 2018 focused rare plant surveys.
Tehachapi Monardella (<i>Monardella linoides</i> ssp. <i>oblonga</i>)	—/—/1B.3	This perennial rhizomatous herb is found in lower montane coniferous forest, pinyon and juniper woodland, and upper montane coniferous forest habitats from about 2,950 feet to 8,105 feet amsl in elevation. Its typical blooming period is from June through August, but occasionally begins blooming in May.	HP	Low potential. Marginally suitable habitat is present within the PSA. This species was not observed during 2018 focused rare plant surveys.
Baja Navarretia (<i>Navarretia</i> <i>peninsularis</i>)	—/—/1B.2	This annual herb occurs in openings within chaparral, lower montane coniferous forest, meadows and seeps, and pinyon and juniper woodland habitats within mesic areas. It can be found at elevations ranging from 4,920 feet to 7,545 feet amsl. It typically blooms from June through August, but occasionally begins blooming in May.	HA	Not expected to occur. Suitable habitat and mesic areas do not exist within the PSA and the PSA is well below the elevation range of this species.

TABLE 4.4-3: SPECIAL-STATUS SPECIES AND HABITATS OF CONCERN POTENTIAL TO OCCUR

Common Name/ (Scientific Name)	Status: Federal/ State/ CRPR^a	Species Requirements	Specific Habitat Present/ Absent^b	Rationale
Piute Mountains Navarretia (<i>Navarretia setiloba</i>)	—/—/1B.1	This annual herb occurs in clay or gravelly loam soils within cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland habitats at elevations ranging from 935 feet to 6,890 feet amsl. It blooms from April through July.	HA	Not expected to occur. Suitable habitat and soils do not exist within the PSA.
Large-flowered Nemacladus (<i>Nemacladus secundiflorus</i> var. <i>secundiflorus</i>)	—/—/4.3	This annual herb can be found in openings and gravelly areas within chaparral and valley and foothill grassland habitats at elevations ranging from 655 feet to 6,560 feet amsl. It blooms from April through June.	HA	Not expected to occur. Suitable habitat does not exist within the PSA.
Adobe Yampah (<i>Perideridia pringlei</i>)	—/—/4.3	This perennial herb grows along serpentine grassland hillsides, in clay soils, and in seasonally wet sites within chaparral, cismontane woodland, pinyon and juniper woodland, and coastal scrub habitats. It occurs at elevations ranging from 980 feet to 5,905 feet amsl. It blooms from April through June, and occasionally into July.	HA	Not expected to occur. Suitable habitat and serpentine, clay, and seasonally wet areas do not exist within the PSA. This species is not expected to occur.
Latimer's Woodland- Gilia (<i>Saltugilia latimeri</i>)	—/—/1B.2	This annual herb is found in chaparral, Mojavean desert scrub, and pinyon and juniper woodland habitats in rocky or sandy, often granitic, soils and occasionally washes. It occurs at elevations ranging from 1,310 feet to 6,235 feet amsl and blooms from March to June.	HP	Moderate potential. Suitable habitat and desert wash areas are present within the PSA. This species was not observed during 2018 focused rare plant surveys.
Lemmon's Syntrichopappus (<i>Syntrichopappus lemmonii</i>)	—/—/4.3	This annual herb is found in sandy or gravelly soils within chaparral, Joshua tree woodland, and pinyon-juniper woodland habitats at elevations ranging from 1,640 feet to 6,005 feet amsl. It blooms from April through May, and occasionally blooms into June.	HP	Low potential. Marginally suitable habitat is present in scattered locations throughout the PSA where Joshua trees are present. However, actual Joshua tree woodlands are not present in the site and the nearest known location of this habitat type is over 20 miles away. This species was not observed during 2018 focused rare plant surveys.

TABLE 4.4-3: SPECIAL-STATUS SPECIES AND HABITATS OF CONCERN POTENTIAL TO OCCUR

Common Name/ (Scientific Name)	Status: Federal/ State/ CRPR^a	Species Requirements	Specific Habitat Present/ Absent^b	Rationale
Grey-leaved Violet (<i>Viola pinetorum</i> ssp. <i>grisea</i>)	—/—/1B.2	This perennial herb is found in meadows and seeps, subalpine coniferous forest, and upper montane coniferous forest. It occurs at elevations ranging from 4,920 feet to 11,155 feet amsl and blooms from April to July.	HA	Not expected to occur. Suitable habitat does not exist within the PSA and the PSA is well below the elevation range of this species.
Golden Violet (<i>Viola purpurea</i> ssp. <i>aurea</i>)	—/—/2B.2	This perennial herb is found in sandy soils in Great Basin scrub and pinyon and juniper woodland habitats at elevations ranging from 3,280 feet to 8,200 feet amsl. Its blooming period is from April through June.	HA	Not expected to occur. Suitable habitat does not exist within the PSA and the PSA is just below the elevation range of this species. As such, this species is not expected to occur.
Reptiles				
Northern California Legless Lizard (<i>Anniella pulchra</i>)	—/CSC/—	Occurs in coastal dune, valley-foothill, chaparral, and coastal scrub habitat types within sandy or loose loamy soils with a high moisture content. Common in Coast Ranges from Antioch/Contra Costa County south to the Mexican border. Elevation from near sea level to about 6,000 feet amsl. Spotty occurrence in San Joaquin Valley from San Joaquin County south, west slope of the southern Sierra, the Tehachapi Mountains west of the desert, and the mountains of southern California.	HA	Not expected to occur. Not common in desert regions as habitat is lacking. One CNDDB record of occurrence is reported at the base of the Tehachapi Mountain Range approximately 2.5 miles northwest of the project. However, this species prefers soils with a high moisture content, which does not occur within the PSA.

TABLE 4.4-3: SPECIAL-STATUS SPECIES AND HABITATS OF CONCERN POTENTIAL TO OCCUR

Common Name/ (Scientific Name)	Status: Federal/ State/ CRPR^a	Species Requirements	Specific Habitat Present/ Absent^b	Rationale
Desert Tortoise (<i>Gopherus agassizii</i>)	T/T/—	Terrestrial tortoise that inhabits burrows on sandy flats, rocky foothills, alluvial fans, canyons, washes and other open areas throughout the Mojave and Sonoran deserts below 3,500 feet in elevation. Species is most active from March through June and from September through October. Populations north and west of the Colorado River are listed as federally threatened. Known to be absent within the Coachella Valley west of the Salton Sea. Additionally, known to be present in the northern, eastern and western rims of the Coachella Valley within the foothills of the Little San Bernardino Mountains, the Painted and Whitewater Hills, and the San Jacinto and northern Santa Rosa Mountains.	HP	Low potential. Suitable habitat is present within the PSA; however, neither desert tortoise nor its sign were observed during April and May 2018 focused surveys. Although CNDDDB record of occurrences are reported within 5 miles of the PSA to both the west and northeast, the PSA is located at the western edge of this species range and observations in the vicinity are generally scarce.
Coast Horned Lizard (<i>Phrynosoma blainvillii</i>)	—/CSC/—	Found in arid and semi-arid climate conditions in chaparral and coastal sage scrub habitats, primarily below 2,000 feet amsl in elevation. Critical factors are the presence of loose soils with a high sand fraction; an abundance of native ants or other insects, especially harvester ants (<i>Pogonomyrmex</i> spp.); and the availability of both sunny basking spots and dense cover for refuge.	HA	Not expected to occur. Suitable habitat does not exist within the PSA. This species occurs in foothills around the Antelope Valley; on the valley floor it is replaced by desert horned lizard (<i>Phrynosoma platyrhinos</i>).

TABLE 4.4-3: SPECIAL-STATUS SPECIES AND HABITATS OF CONCERN POTENTIAL TO OCCUR

Common Name/ (Scientific Name)	Status: Federal/ State/ CRPR ^a	Species Requirements	Specific Habitat Present/ Absent ^b	Rationale
Birds				
Tricolored Blackbird (<i>Agelaius tricolor</i>)	—/SC, CSC/—	Occurs in open country in western Oregon, California, and northwestern Baja California. Breeds near freshwater, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow (<i>Salix</i> spp.), blackberry (<i>Rubus</i> spp.), wild rose (<i>Rosa</i> spp.), tall herbs and forages in grassland and cropland habitats. Seeks cover for roosting in emergent wetland vegetation, especially cattails (<i>Typha</i> spp.) and tules (<i>Scirpus</i> spp.), and also in trees and shrubs.	Nesting: HA Foraging: HA	Not expected to occur. No suitable habitat occurs within the PSA.
Golden Eagle (<i>Aquila chrysaetos</i>)	—/FP/—	Forages in grassland and open savannah of many types. It tolerates considerable variation in topography and elevation. It prefers to hunt moderate-sized prey, especially California Ground Squirrels (<i>Spermophilus beecheyi</i>) and rabbits, but will occasionally take larger prey, such as Mule Deer (<i>Odocoileus hemionus</i>) fawns. Nests on cliffs of all heights, and occasionally in large trees in open areas, in rugged, open habitats with canyons and escarpments. It is very sensitive to human disturbance, especially near nest sites.	Nesting: HA Foraging: HP	Moderate potential. No suitable nesting habitat occurs within the PSA, but foraging habitat is present, there is abundant evidence of small mammals (i.e., burrows), and this species has been observed foraging within the project vicinity during field surveys for other renewable energy projects.
Burrowing Owl (<i>Athene cunicularia</i>)	—/CSC/—	Inhabits open, dry grasslands, prairie, desert floor, and open scrub habitats. Commonly found in areas altered by man, including flood control channels and basins, abandoned or open fields, agricultural and livestock areas, and road cuts. In California, commonly uses ground squirrel burrows. Also known to utilize piles of broken concrete, old pipes, and other abandoned structures for burrows.	Nesting: P Foraging: P	Present. Suitable habitat is found within the PSA and this species was observed during protocol surveys conducted in 2018. Five juveniles were detected within the northern portion of the proposed solar field.

TABLE 4.4-3: SPECIAL-STATUS SPECIES AND HABITATS OF CONCERN POTENTIAL TO OCCUR

Common Name/ (Scientific Name)	Status: Federal/ State/ CRPR^a	Species Requirements	Specific Habitat Present/ Absent^b	Rationale
Swainson's Hawk (<i>Buteo swainsoni</i>)	—/T/—	Suitable breeding habitat consists of areas containing Joshua trees, Fremont cottonwoods, or other large trees located adjacent to open fields, including agricultural fields. Forages in open desert, grasslands, agricultural fields, or livestock pastures.	Nesting: HP Foraging: P	Present. Suitable nesting and foraging habitat are present within the PSA and this species was observed nesting within the 5-mile survey buffer during 2018 protocol surveys.
Vaux's Swift (<i>Chaetura vauxi</i>)	—/CSC/—	Fairly common as a spring and fall migrant in southern California. In winter, occurs rarely and irregularly in the region. Requires trees, snags, chimneys, or smokestacks with large hollows or cavities for nighttime roosting. Roost sites are found in a variety of forested and urban environments.	Nesting: HA Foraging: P	Present. This species was incidentally observed during biological surveys conducted in 2018, but would not nest within the PSA. It may forage and roost overnight in some larger trees within the PSA but would generally just pass through on its way north and south during migration.
Mountain Plover (<i>Charadrius montanus</i>)	—/CSC/—	Occurs in short grasslands, plowed fields with little vegetation, and open sagebrush areas. Nests in short-grass prairies in the western Great Plains and Rocky Mountain states, but winters along the Pacific and Gulf Coasts and in the Southwest. In California, generally winters in the Sacramento, San Joaquin, Panoche, Antelope, and Imperial valleys, with very small numbers occurring in the coastal region.	Nesting: HA Foraging: HP	Moderate potential. This species does not nest in California. However, suitable wintering habitat occurs in the agricultural fields located outside of the project footprint within the PSA surrounding the proposed access roads.
Northern Harrier (<i>Circus hudsonius</i>)	—/CSC/—	This is a medium-small, lightly built bird of prey which hunts low to the ground mostly in open country, nesting on the ground. Prey diversity is high, though small mammals are most commonly taken. This is the only North American hawk that locates much of its prey by hearing as it quarters low over the vegetation. It was formerly a fairly common breeder in much of coastal southern California, but now is nearly extirpated in this role due to loss of native open habitats, especially marshes. It remains fairly common in open country with low human disturbance during migration and in winter.	Nesting: HA Foraging: P	Present. Suitable habitat is found within the PSA and this species was incidentally observed during biological surveys conducted in 2018.

TABLE 4.4-3: SPECIAL-STATUS SPECIES AND HABITATS OF CONCERN POTENTIAL TO OCCUR

Common Name/ (Scientific Name)	Status: Federal/ State/ CRPR^a	Species Requirements	Specific Habitat Present/ Absent^b	Rationale
Willow Flycatcher (<i>Empidonax traillii</i>)	—/E/—	A broadly distributed species, breeding interruptedly across much of the United States and Canada. In California it is nearly restricted to the Sierra Nevada Mountains and a few populations scattered through southern California. Several subspecies are recognized. Southern California is within the range of the subspecies E.t. extimus (southwestern willow flycatcher). During migration, southern California is host to other subspecies of willow flycatcher passing between breeding areas farther north (Sierra Nevada north to Canada) and their winter range farther south (Central America). These migrants of other subspecies are found in a wide variety of habitats, and are uncommon to fairly common in spring and fall.	Nesting: HA Foraging: P	Present. This species was incidentally observed during biological surveys conducted in 2018. It was not within suitable breeding habitat and would not breed within the PSA. The bird that was observed was a transitory migrant passing through on its way to more northern breeding grounds.
California Condor (<i>Gymnogyps californianus</i>)	E/—/—	Occurs in semi-arid mountainous areas in California, including the southern Sierra Nevada, Tehachapi Mountains, Transverse Ranges, and the Coast Ranges from Santa Clara County south to Los Angeles County. Forages in open habitats, including grasslands, foothill chaparral, and savannahs, and feeds solely on carrion. Nests and roosts in cliffs on ledges and cavities and in large trees and snags.	Nesting: HA Foraging: HA	Not expected to occur. The PSA is outside of the species' current range and there are no records of occurrence within the project quadrangle or surrounding quadrangles. Suitable habitat is absent from the PSA. Mountainous areas for roosting and large sources of carrion are not found in the PSA. California condor does occur within the nearby Tehachapi Mountains to the north and west, as well as in the San Gabriel and Liebre mountains to the south, but there are no records within the Antelope Valley, which lacks the topography to provide lift for soaring. Although it is possible that an individual could fly over the PSA, it is very unlikely that it would land, as their prey base are absent.
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	—/CSC/—	Found as a common resident and winter visitor throughout California in lowland and foothill habitats, where it frequents open areas with sparse shrubs and trees.	Nesting: P Foraging: P	Present. This species was observed foraging and nesting within the PSA during 2018 field surveys.

TABLE 4.4-3: SPECIAL-STATUS SPECIES AND HABITATS OF CONCERN POTENTIAL TO OCCUR

Common Name/ (Scientific Name)	Status: Federal/ State/ CRPR^a	Species Requirements	Specific Habitat Present/ Absent^b	Rationale
Le Conte's Thrasher (San Joaquin population) (<i>Toxostoma lecontei macmillanorum</i>)	—/CSC/—	Year round resident. Inhabits sparsely vegetated flats, dunes, washes, alluvial fans or gently rolling hills with a high cover of Atriplex or Opuntia.	Nesting: HA Foraging: HA	Not expected to occur. The PSA is approximately 55 miles east northeast of the edge of the population with CSC status. The entire species held CSC status until 2008. Currently, only the San Joaquin population (<i>T. l. macmillanorum</i>) is designated as a CSC species, which has no potential to occur within the PSA. Le Conte's thrasher was observed throughout the main project footprint during 2018 field surveys, but was the subspecies <i>T. l. lecontei</i> , which does not have CSC status.
Yellow-Headed Blackbird (<i>Xanthocephalus xanthocephalus</i>)	—/CSC/—	Most numerous in prairie wetlands, is a conspicuous breeding bird in deep-water, emergent wetlands throughout non forested regions of western North America. Highly social, these large-bodied blackbirds are polygynous, nesting on grouped territories. Postbreeding birds eat mostly grains, often forming large flocks that forage in uplands and roost in wetlands. Flocks migrate to the southern United States and Mexico for the winter.	Nesting: HP Foraging: P	Present. This species was incidentally observed during biological surveys conducted in 2018. Marginal breeding habitat may be present within the PSA, but only if there were suitable vegetation present within or over water, which is an obligatory factor for this species. There are some small stock ponds present in the PSA outside of the project limits of disturbance, but breeding suitability would be dependent on conditions at the time, primarily the extent of emergent vegetation present and the extent of water that is present underneath.
Mammals				
Townsend's Big-Eared Bat (<i>Corynorhinus townsendii</i>)	—/CSC/—	This species generally roost in caves, mines, and buildings. It forages in a variety of habitats including, mixed desert scrub, primarily in riparian corridors, closely following creeks or streams, and edge habitats eating insect prey.	Roosting: HA Foraging: HP	Moderate potential. Suitable roosting habitat is not present within the PSA, but does occur within the surrounding terrain. Suitable foraging habitat exists throughout the PSA.

TABLE 4.4-3: SPECIAL-STATUS SPECIES AND HABITATS OF CONCERN POTENTIAL TO OCCUR

Common Name/ (Scientific Name)	Status: Federal/ State/ CRPR^a	Species Requirements	Specific Habitat Present/ Absent^b	Rationale
Tulare Grasshopper Mouse (<i>Onychomys torridus tularensis</i>)	—/CSC/—	Low open scrub and desert scrub. Historic range extended along foothills and floor of southern San Joaquin Valley from western Merced and eastern San Benito counties, east to Madera County, and south to the foothills of the Tehachapi and San Emigdio mountains.	HP	Low potential. Suitable desert scrub habitat occurs within the PSA. Two CNDDDB records of occurrence are reported within approximately 3 miles northwest of the PSA. However, these occurrences were in the lower foothills, not the flat lands (where the project occurs), and are located on the very edge of the species range.
Tehachapi Pocket Mouse (<i>Perognathus alticolus inexpectatus</i>)	—/CSC/—	Habitat not well defined; generally found in grasslands, desert scrub, pine woodlands, and fallow fields. Burrows for cover and nesting. From Tehachapi Pass, west to Mount Pinos, and south to Elizabeth and Quail Lakes, at elevations from 3,379 feet to 6,004 feet amsl.	HP	Low potential. Suitable desert scrub habitat and soils occur within the PSA, although the PSA is just below the typical elevation range for this species. Two CNDDDB records of occurrence are reported within approximately 1 mile north and northwest of the PSA. However, these occurrences were in the lower foothills, not the flat lands (where the project occurs).
American Badger (<i>Taxidea taxus</i>)	—/CSC/—	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	HP	Not expected to occur. Suitable habitat occurs within the PSA. However, no burrows large enough to support this species were found within the PSA during 2018 field surveys.
Mohave Ground Squirrel (<i>Xerospermophilus mohavensis</i>)	—/T/—	Land supporting desert shrub vegetation within the geographic range of the species. It is restricted to the Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo counties and is rare throughout its range. Populations in southwestern San Bernardino County appear to be extirpated.	HP	Not expected to occur. Suitable soils, topography, and habitat to support this species are present within the PSA. However, the PSA is not within the generally accepted current range of this species and focused trapping surveys in 2018 confirmed the absence of Mohave ground squirrel from the PSA. In addition, there are no records of occurrence for this species west of State Route 14 between Palmdale and Mojave, no records within 10 miles of the project site, and survey results for several adjacent solar developments were all negative.

TABLE 4.4-3: SPECIAL-STATUS SPECIES AND HABITATS OF CONCERN POTENTIAL TO OCCUR

Common Name/ (Scientific Name)	Status: Federal/ State/ CRPR^a	Species Requirements	Specific Habitat Present/ Absent^b	Rationale
Habitats of Concern (Depleted Natural Communities)				
Valley Needlegrass Grassland	CNDDB	n/a	A	This community does not occur within the PSA.
Wildflower Field	CNDDB	n/a	A	This community does not occur within the PSA.
<div> <div> ^a Status Codes <u>Federal</u> E = Federally listed; Endangered PE = Proposed Endangered T = Federally listed; Threatened FC = Federal Candidate for Listing FSC = Federal Species of Concern D = Delisted <u>State</u> T = State listed; Endangered E = State listed; Threatened SC = State Candidate for Listing R = Rare (Native Plant Protection Act) CSC = California Species of Special Concern FP = California Fully Protected Species </div> <div> <u>Multiple Species Habitat Conservation Plan (MSHCP)</u> MSHCP = No additional action necessary MSHCP(a) = Surveys may be required as part of wetlands mapping MSHCP(b) = Surveys may be required within the Narrow Endemic Plant Species survey area MSHCP(c) = Surveys may be required within locations shown on survey maps MSHCP(d) = Surveys may be required within Criteria Area MSHCP(e) = Conservation requirements identified in species-specific conservation objectives need to be met before classified as a Covered Species </div> <div> ^b Habitat Presence/Absence Codes P = The species is present. HP =Habitat is or may be present. The species may be present. HA = No habitat present and no further work needed. A= This species is absent. California Rare Plant Ranks (CRPR) 1A = Plants presumed extinct in California 1B = Plants rare, threatened, or endangered in California and elsewhere 2 = Plants rare, threatened, or endangered in California, but more common elsewhere 3 = Plants about which we need more information 4 = Limited distribution (Watch List) 0.1 = Seriously endangered in California 0.2 = Fairly endangered in California 0.3 = Not very endangered in California CNDDB = Vegetation communities classified as depleted </div> </div>				

Special-Status Plants

Thirty-one special-status plant species were identified in the literature review and database search as historically occurring in the region, sixteen of these species were determined not likely to occur because of a lack of suitable habitat and/or absence during focused surveys conducted within the appropriate blooming period. Table 4.4-4 identifies the regulatory status, habitat requirements, and blooming period for each plant species that has some potential to occur as well as the potential for the species to occur on the project site based on focused survey results and the presence or absence of suitable habitat.

Three plant species, beavertail cactus, silver cholla (*Cylindropuntia echinocarpa*), and Joshua tree (*Yucca brevifolia*) are covered only under the California Desert Native Plants Act (CDNPA) and were mapped during 2018 surveys. Approximately 40 beavertail cactus, 269 silver cholla, and 3,911 Joshua trees were identified on the project site.

Five special-status plant species were detected within the project site or within a 100-foot survey buffer during the spring 2018 surveys: alkali mariposa lily, Mojave spineflower, beavertail cactus, silver cholla, and Joshua tree (ICF 2019a). Of the remaining thirteen special-status species, one (Golden Goodmania [*Goodmania luteola*]) was determined to have a high potential to occur, six (Peirson's morning-glory [*Calystegia peirsonii*], white pygmy-poppy [*Canbya candida*], Mt. pinos larkspur [*Delphinium parryi* ssp. *purpureum*], recurved larkspur (*Delphinium recurvatum*), sagebrush loeflingia [*Loeflingia squarrosa* var. *artemisiarum*], and Latimer's woodland-gilia [*Saltugilia latimeri*]) were determined to have a moderate potential to occur, and six (Horn's milk-vetch [*Astragalus hornii* var. *hornii*], Kern County evening-primrose [*Camissonia kernensis* ssp. *kernensis*], Rosamond eriastrum [*Eriastrum rosamondense*], pale-yellow layia [*Layia heterotricha*], Tehachapi monardella [*Monardella linoides* ssp. *oblonga*], and Lemmon's syntrichopappus [*Syntrichopappus lemmonii*]) were determined to have a low potential to occur.

Species that are present or have high to moderate potential to occur are described further below.

Alkali Mariposa Lily. The alkali mariposa lily, a CRPR 1B.2 species, is a bulbiferous perennial herb found in alkaline and mesic areas within chaparral, chenopod scrub, Mojavean desert scrub, and meadow and seep habitats. It occurs in Inyo, Kern, Los Angeles, San Bernardino, and Tulare counties at elevations ranging from 230 and 5,240 feet amsl. It flowers from April through June.

Appropriate suitable habitat and alkaline areas for alkali mariposa lily occurs within the project site. This species was observed adjacent to a proposed access road during 2018 rare plant focused surveys. Individuals were recorded at three locations along the north side of Rosamond Boulevard near the intersections with 95th Street West and Killdeer Street within Desert Saltbush Scrub habitat. Only skeletal fruiting capsules from the previous season were detected; alkali mariposa lily was not observed to be in vegetative, flowering, or fruiting life cycle during the 2018 surveys. This was consistent with the two reference populations that were visited, with many old skeletal fruiting capsules observed but only a single flowering individual found. The dried capsules that were detected matched the characteristics of alkali mariposa lily and occurred within the location of a CNDDB record of occurrence for the species (CDFW 2018a). This area was checked in 2019, and flowering individuals were observed and identified to species, confirming that alkali mariposa lily is present within the main project footprint.

TABLE 4.4-4: SPECIAL-STATUS PLANT SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status ^a	State Status ^b	CRPR ^c	Habitat Requirements	Potential to Occur
<i>Astragalus hornii</i> var. <i>hornii</i>	Horn's Milk-vetch	None	None	1B.1	This annual herb is found in alkaline areas within meadows and seeps and playas/lake margins. Occurs at elevations from 195 feet to 2,790 feet amsl. Blooms from May through October.	Low. Suitable habitat for this species (alkali seeps and hummocks) is present in scattered locations throughout the project site. This species was not observed during 2018 focused rare plant surveys.
<i>Calochortus striatus</i>	Alkali Mariposa Lily	None	None	1B.2	This perennial bulbiferous herb can be found chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps in alkaline and mesic areas between 230 feet and 5,240 feet amsl in elevation. The blooming period is from April through June.	Present. Suitable habitat and alkaline areas are present within the project site. This species was observed within the project site along the proposed access roads during the 2018 focused rare plant surveys.
<i>Calystegia peirsonii</i>	Peirson's Morning-glory	None	None	4.2	This perennial rhizomatous herb can be found within chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. Occurs at an elevation of 95 feet to 4,920 feet amsl and blooms between April and June.	Moderate. Suitable habitat is present within the project site. This species was not observed during 2018 focused rare plant surveys.
<i>Camissonia kernensis</i> ssp. <i>kernensis</i>	Kern County Evening-Primrose	None	None	4.3	This annual herb is known to occur in sandy, gravelly, or granitic areas within chaparral, Joshua tree woodland, and pinyon and juniper woodland habitats. Elevation ranges from 2,590 feet to 6,990 feet amsl. Blooms from March through May.	Low. Marginally suitable habitat is present in scattered locations throughout the project site where Joshua trees are present. However, actual Joshua tree woodlands are not present in the site and the nearest known location of this habitat type is over 20 miles away. This species was not observed during 2018 focused rare plant surveys.

TABLE 4.4-4: SPECIAL-STATUS PLANT SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status ^a	State Status ^b	CRPR ^c	Habitat Requirements	Potential to Occur
<i>Canbya candida</i>	White Pygmy-poppy	None	None	4.2	This annual herb is found in gravelly, sandy, and granitic soils within Joshua tree woodland, Mojavean desert scrub, and Pinyon and juniper woodland habitats between 1,968 feet and 4,790 feet amsl in elevation. Blooming period is from March through June.	Moderate. Suitable habitat is present within the project site. This species was not observed during 2018 focused rare plant surveys.
<i>Chorizanthe spinosa</i>	Mojave Spineflower	None	None	4.2	This annual herb occurs in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas, often in alkaline areas, between 20 feet and 4,265 feet amsl in elevation. Blooming period is from March through July.	Present. Suitable habitat and alkaline areas are present within the project site. This species was observed within the project site along the proposed access roads during the 2018 focused rare plant surveys.
<i>Cryptantha clokeyi</i>	Clokey's Cryptantha	None	None	1B.2	This annual herb is found in Mojavean desert scrub on rocky to gravelly slopes, ridge crests, and desert woodland between 2,370 feet and 4,480 feet amsl in elevation. This species blooms in April.	Moderate. Marginally suitable habitat is present within the project site. This species was not observed during 2018 focused rare plant surveys.
<i>Delphinium recurvatum</i>	Recurved Larkspur	None	None	1B.2	This perennial herb is known to occur in alkaline areas within chenopod scrub, cismontane woodland, and valley and foothill grasslands. It is found at elevations ranging from 5 feet to 2,590 feet amsl and blooms from March through June.	Moderate. Suitable habitat (chenopod scrub) and alkaline areas are present in scattered locations throughout the project site. This species was not observed during 2018 focused rare plant surveys. However, old fruiting capsules of a <i>Delphinium</i> species were found during the 2018 surveys. Based on the fruiting characteristics of capsule, as well as the potentially suitable habitat within the project site and known range of this species, it is possible that the skeletal remains of the plant observed is recurved larkspur.

TABLE 4.4-4: SPECIAL-STATUS PLANT SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status ^a	State Status ^b	CRPR ^c	Habitat Requirements	Potential to Occur
<i>Eriastrum rosamondense</i>	Rosamond Eriastrum	None	None	1B.1	This annual herb is found in the openings of chenopod scrub and along the edges of vernal pools in alkaline hummocks in areas that are often sandy. It occurs at elevations ranging from 2,295 feet to 2,345 feet amsl. This species typically blooms from April through May, and occasionally from June to July.	Low. Suitable habitat for this species (alkali seeps and hummocks) is present in scattered locations throughout the project site. This species was not observed during 2018 focused rare plant surveys.
<i>Goodmania luteola</i>	Golden Goodmania	None	None	4.2	This annual herb is found in alkaline and clay soils within Mojavean desert scrub, meadows and seeps, playas, and valley and foothill grassland habitats. It occurs at elevations between 65 feet and 7,220 feet amsl and blooms between April and August.	High. Suitable habitat and alkaline areas are present within the project site. This species was not observed during 2018 focused rare plant surveys.
<i>Layia heterotricha</i>	Pale-yellow Lavia	None	None	1B.1	This annual herb is found in open areas containing alkaline or clay soils within cismontane woodland, pinyon-juniper woodland, and valley and foothill grassland habitats. It occurs at elevations ranging from 980 feet to 5,595 feet amsl and blooms from March through June.	Low. Marginally suitable habitat is present within the project site. This species was not observed during 2018 focused rare plant surveys.
<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	Sagebrush Loeflingia	None	None	2B.2	This annual herb is found in sandy areas within desert dune, Great Basin scrub, and Sonoran desert scrub habitats. It is known from elevations ranging from 2,295 feet to 5,300 feet amsl. Its blooming period ranges from April through May.	Moderate. Suitable habitat is present within the project site. This species was not observed during 2018 focused rare plant surveys.

TABLE 4.4-4: SPECIAL-STATUS PLANT SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status ^a	State Status ^b	CRPR ^c	Habitat Requirements	Potential to Occur
<i>Monardella linoides</i> ssp. <i>oblonga</i>	Tehachapi Monardella	None	None	1B.3	This perennial rhizomatous herb is found in lower montane coniferous forest, pinyon and juniper woodland, and upper montane coniferous forest habitats from about 2,950 feet to 8,105 feet amsl in elevation. Its typical blooming period is from June through August, but occasionally begins blooming in May.	Low. Marginally suitable habitat is present within the project site. This species was not observed during 2018 focused rare plant surveys.
<i>Saltugilia latimeri</i>	Latimer's woodland-gilia	None	None	1B.2	This annual herb is found in chaparral, Mojavean desert scrub, and pinyon and juniper woodland habitats in rocky or sandy, often granitic, soils and occasionally washes. It occurs at elevations ranging from 1,310 feet to 6,235 feet amsl and blooms from March to June.	Moderate. Suitable habitat and desert wash areas are present within the project site. This species was not observed during 2018 focused rare plant surveys.
<i>Syntrichopappus lemmonii</i>	Lemmon's syntrichopappus	None	None	4.3	This annual herb is found in sandy or gravelly soils within chaparral, Joshua tree woodland, and pinyon-juniper woodland habitats at elevations ranging from 1,640 feet to 6,005 feet amsl. It blooms from April through May, and occasionally blooms into June.	Low. Marginally suitable habitat is present in scattered locations throughout the project site where Joshua trees are present. However, actual Joshua tree woodlands are not present in the site and the nearest known location of this habitat type is over 20 miles away. This species was not observed during 2018 focused rare plant surveys.
<i>Opuntia basilaris</i>	Beavertail Cactus ^d	None	None	None	Chaparral, woodlands, desert flats, and hills. Sandy to rocky soils. 1,000–5,500 feet. Blooms February through June.	Present. Beavertail Cactus are known to occur at the project site.

TABLE 4.4-4: SPECIAL-STATUS PLANT SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status ^a	State Status ^b	CRPR ^c	Habitat Requirements	Potential to Occur
<i>Cylindropuntia echinocarpa</i>	Silver Cholla ^d	None	None	None	Mojave and Sonoran deserts, desert grasslands, juniper and oak-juniper woodlands, flats, bajadas, and canyons. Sandy, loam, alluvial to gravelly substrates. 150–5,500 feet. Blooms March through June.	Present. Silver cholla are known to occur at the project site.
<i>Yucca brevifolia</i>	Joshua tree ^d	Proposed for FT	None	None	Well-drained sandy and gravelly alluvial fans adjacent to desert mountain ranges. 1,600–7,200 feet. Blooms April through May.	Present. Joshua trees occur throughout the project site.

^a Description of Federal Codes: FE = Federally endangered. FT = Federally threatened.

^b Description of State Codes: SE = State endangered.

^c Description of CRPR Codes:

CRPR 1B.1= Eligible for state listing, CEQA review; seriously threatened in California.

CRPR 1B.2= Eligible for state listing, CEQA review; moderately threatened in California.

CRPR 1B.3=Eligible for state listing, CEQA review; not very threatened in California.

CRPR 2B.2=Eligible for state listing though common elsewhere, CEQA review; moderately threatened in California.

CRPR 4.2 = Plants with a limited distribution or that are infrequent over a broader area in California; moderately threatened in California.

CRPR 4.3 = Plants with a limited distribution or that are infrequent over a broader area in California; not very threatened in California.

^d Covered only under the California Desert Native Plants Act

SOURCE: ICF 2019a.

Clokey's Cryptantha. Clokey's cryptantha, a CRPR 1B.2 species, is a small endemic annual herb that is found in desert woodland and Mojavean desert scrub on rocky to gravelly slopes and ridge crests. It occurs in Inyo, Kern, Los Angeles, and San Bernardino counties at elevations ranging from 2,370 to 4,480 feet amsl. It blooms in April.

Clokey's cryptantha is determined to have a moderate potential to occur within the project site because appropriate suitable habitat exists, and a known occurrence of this species is located 5 miles southwest of the project site. Focused rare plant surveys conducted in spring and summer 2018 and 2019 during the blooming period for this species were negative (none were found).

Golden Goodmania. Golden goodmania, a CRPR 4.2 species, is a small annual herb that occurs in alkaline and clay soils within Mojavean desert scrub, meadows and seeps, playas, and valley and foothill grassland habitats. It is found in Fresno, Inyo, Kern, Los Angeles, Madera, Mono, and Tulare counties at elevations between 65 and 7,220 feet amsl. It blooms between April and August.

Golden goodmania is determined to have a high potential to occur within the project site because appropriate suitable habitat exists, and prolific occurrences of this species are located less than 5 miles south of the project site. Focused rare plant surveys conducted in spring and summer 2018 and 2019 during the blooming period for this species were negative (none were found).

Latimer's Woodland-Gilia. Latimer's woodland-gilia, a CRPR 1B.2 species, is an endemic annual herb that is found in chaparral, Mojavean desert scrub, and pinyon and juniper woodland habitats in rocky or sandy, often granitic, soils and occasionally washes. It occurs in Inyo, Kern, Riverside, and San Bernardino counties at elevations ranging from 1,310 to 6,235 feet amsl. It blooms from March to June.

Latimer's woodland-gilia is determined to have a moderate potential to occur within the project site because appropriate suitable habitat exists, and a known occurrence of this species is located 5 miles north of the project site. Focused rare plant surveys conducted in spring and summer 2018 and 2019 during the blooming period for this species were negative.

Mojave Spineflower. Mojave spineflower, a CRPR 4.2 species, is a small endemic annual herb that occurs in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas. It is often found in alkaline areas and occurs within Kern, Los Angeles, and San Bernardino counties between 20 and 4,265 feet amsl elevation. Its blooming period is from March through July.

Mojave spineflower was found to be blooming at a reference population visited on May 30, 2018. Appropriate suitable habitat and alkaline areas for Mojave spineflower occurs within the project site. This species was observed adjacent to a proposed access road during 2018 rare plant focused surveys. Individuals were recorded along Hamilton Road on both the north and south side of the road near the intersections with 96th and 97th Streets within Desert Saltbush Scrub habitat. Thousands of plants were observed blooming in densely populated clusters during the time of the surveys. No additional locations of this species were detected during the 2019 surveys.

Peirson's Morning-Glory. Peirson's morning-glory, a CRPR 4.2 species, is an endemic perennial rhizomatous herb that occurs within chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland habitats. It is found in Los Angeles and Kern counties at elevations ranging from 95 to 4,920 feet amsl. It flowers between April and June.

Peirson's morning-glory is determined to have a moderate potential to occur within the project site because appropriate suitable habitat exists, and a known occurrence of this species is located less than 5 miles from the project site. Focused rare plant surveys conducted in spring and summer 2018 and 2019 during the blooming period for this species were negative.

Recurved Larkspur. Recurved larkspur, a CRPR 1B.2 species, is a perennial herb that occurs in alkaline areas within chenopod scrub, cismontane woodland, and valley and foothill grasslands. It is known from Alameda, Contra Costa, Fresno, Glenn, Kings, Kern, Madera, Merced, Monterey, San Joaquin, San Luis Obispo, Solano, Sutter, and Tulare counties at elevations ranging from 5 to 2,590 feet amsl. It flowers from March through June.

Recurved larkspur is determined to have a moderate potential to occur because appropriate chenopod scrub habitat and alkaline areas are present in scattered locations throughout the project site, and a known 2011 occurrence of this species is located approximately 9.4 miles east of the project site. Focused rare plant surveys conducted in spring and summer 2018 and 2019 during the blooming period for this species were negative. Old fruiting capsules potentially belonging to recurved larkspur were found in 2018 (in a drainage in the southern portion of the site). This area was checked in 2019 and the flowering plants were identified as the common *Delphinium* species, Parish's larkspur (*Delphinium parishii*). As such, recurved larkspur is not considered to be present within the project study area.

Sagebrush Loefflingia. Sagebrush loefflingia, a CRPR 2B.2 species, is an annual herb that is found in sandy areas within desert dune, Great Basin scrub, and Sonoran desert scrub habitats. It is known from Inyo, Kern, Lassen, Los Angeles, Plumas, and San Bernardino counties at elevations ranging from 2,295 to 5,300 feet amsl. It flowers from April through May.

Sagebrush loefflingia is determined to have a moderate potential to occur within the project site because appropriate suitable habitat exists, and a known occurrence of this species is located 5 miles southeast of the project site. Focused rare plant surveys conducted in spring and summer 2018 and 2019 during the blooming period for this species were negative.

White Pygmy-Poppy. White pygmy-poppy, a CRPR 4.2 species, is a small endemic annual herb that occurs in gravelly, sandy, and granitic soils within Joshua tree woodland, Mojavean desert scrub, and Pinyon and juniper woodland habitats. It is found in Imperial, Inyo, Kern, Los Angeles, and San Bernardino counties between 1,968 and 4,790 feet amsl elevation. It blooms from March through June.

White pygmy-poppy is determined to have a moderate potential to occur within the project site because appropriate suitable habitat exists, and several occurrences of this species are located within 10 miles of the project site. Focused rare plant surveys conducted in spring and summer 2018 and 2019 during the blooming period for this species were negative.

Beavertail Cactus. The beavertail cactus is a native cactus species that is not listed on any state or federal lists as threatened or endangered. This native desert plant is protected under the CNDPA from harvesting or selling. Approximately 77 beavertail cacti were observed on the project site during 2018 and 2019 surveys. Therefore, this species is widely abundant on the project site.

Silver Cholla. The silver cholla is a native cactus species that is not listed on any state or federal lists as threatened or endangered. This native desert plant is protected under the CNDPA from harvesting or selling. Approximately 410 silver cholla cacti were observed on the project site during 2018 and 2019 surveys. Therefore, this species is widely abundant on the project site.

Joshua Tree. The Joshua tree is a large and widely recognized member of the Agave family that occurs in California, southwestern Utah, western Arizona, and southern Nevada at elevations from 1,600 to 7,200 feet amsl. In California it occurs in six counties: Mono, Inyo, Kern, Los Angeles, San Bernardino, and Riverside. This native desert plant is protected under the CNDPA from harvesting or selling. The Joshua tree is also under consideration for listing as federally threatened, based on a listing petition filed in 2015 (WildEarth Guardians 2015). As of May 2018, USFWS completed the 90-day review, concluding that information in the petition indicates that listing may be warranted, and the subsequent 12-month review is in process. In practice, the 12-month review often takes well over 12 months. During the 12-month review, USFWS gathers and evaluates the best scientific and commercial data available to determine whether listing is in fact warranted. If so, USFWS will either propose a listing rule or defer listing; if listing is deferred than the species gains candidate status. Individual Joshua trees do not have any sensitive status according to CNPS or CDFW, but Joshua tree woodland is considered a sensitive natural community and is not present on the project site. In 2011, the Joshua tree was evaluated for inclusion in the California Rare Plant Inventory by CNPS but was rejected because it was too common (CNPS 2018).

Joshua trees are conspicuous in the landscape, reaching heights of up to 50 feet, and bloom in April and May. The Joshua tree occurs primarily in shrub-dominated plant communities, and is most numerous in Joshua tree woodlands, where it must comprise at least 1 percent of canopy cover (Sawyer et al. 2009). Occurrences of Joshua trees and Joshua tree woodland are not tracked in the CNDDB or by CNPS; however, records are available from the Consortium of California Herbaria, which is not restricted to sensitive species. Joshua trees are present at the project site; approximately 5,281 individuals were mapped during the 2018 and 2019 surveys.

Special-Status Wildlife

Based on the literature review and database search, twenty special-status wildlife species (three reptiles, twelve birds, and five mammals) have been historically recorded within the vicinity of the project site. Of these, seven were determined not likely to occur due to lack of suitable habitat or range constraints and absence during protocol surveys. In addition, white-face ibis (*Plegadis chihi*), ferruginous hawk (*Buteo regalis*), prairie falcon (*Falco mexicanus*), horned lark, and Bell's sparrow (*Artemisiospiza belli*) were observed within the project site and/or survey area during 2018 field surveys. These species are not listed as special-status species, and thus are not discussed further, but are classified as Watch List species by CDFW. Species with potential to occur are listed in Table 4.4-5, which identifies their regulatory status and habitat requirements, as well as the potential for the species to occur on the project site or immediate vicinity based on recent survey results.

TABLE 4.4-5: SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status ^a	State Status ^b	Habitat Requirements	Potential to Occur
Reptiles					
<i>Anniella pulchra</i>	Silvery Legless Lizard	None	SSC	Occurs in coastal dune, valley-foothill, chaparral, and coastal scrub habitat types within sandy or loose loamy soils with a high moisture content. Common in Coast Ranges from Antioch/Contra Costa County south to the Mexican border. Elevation from near sea level to about 6,000 feet amsl. Spotty occurrence in San Joaquin Valley from San Joaquin County south, west slope of the southern Sierra, the Tehachapi Mountains west of the desert, and the mountains of southern California.	Not Likely to Occur. Not common in desert regions as habitat is lacking. One CNDDB record of occurrence is reported at the base of the Tehachapi Mountain Range approximately 2.5 miles northwest of the project. However, this species prefers soils with a high moisture content, which does not occur within the project site.
<i>Gopherus agassizii</i>	Desert Tortoise	FT	ST	Terrestrial tortoise that inhabits burrows on sandy flats, rocky foothills, alluvial fans, canyons, washes and other open areas throughout the Mojave and Sonoran deserts below 3,500 feet in elevation. Species is most active from March through June and from September through October. Populations north and west of the Colorado River are listed as federally threatened. Known to be absent within the Coachella Valley west of the Salton Sea. Additionally, known to be present in the northern, eastern and western rims of the Coachella Valley within the foothills of the Little San Bernardino Mountains, the Painted and Whitewater Hills, and the San Jacinto and northern Santa Rosa Mountains.	Low. Suitable habitat is present within the project site; however, neither desert tortoise nor its sign were observed during April and May 2018 focused surveys. Although CNDDB record of occurrences are reported within 5 miles of the project site to both the west and northeast, the project site is located at the western edge of this species range and observations in the vicinity are generally scarce.

TABLE 4.4-5: SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status ^a	State Status ^b	Habitat Requirements	Potential to Occur
<i>Phrynosoma blainvillii</i>	Coast Horned Lizard	None	SSC	Found in arid and semi-arid climate conditions in chaparral and coastal sage scrub habitats, primarily below 2,000 feet amsl in elevation. Critical factors are the presence of loose soils with a high sand fraction; an abundance of native ants or other insects, especially harvester ants (<i>Pogonomyrmex</i> spp.); and the availability of both sunny basking spots and dense cover for refuge.	Not Likely to Occur. Suitable habitat does not exist within the project site. This species occurs in foothills around the Antelope Valley; on the valley floor it is replaced by desert horned lizard (<i>Phrynosoma platyrhinos</i>).
Birds					
<i>Agelaius tricolor</i>	Tricolored Blackbird	None	SSC, candidate for SE	Occurs in open country in western Oregon, California, and northwestern Baja California. Breeds near freshwater, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow (<i>Salix</i> spp.), blackberry (<i>Rubus</i> spp.), wild rose (<i>Rosa</i> spp.), tall herbs and forages in grassland and cropland habitats. Seeks cover for roosting in emergent wetland vegetation, especially cattails (<i>Typha</i> spp.) and tules (<i>Scirpus</i> spp.), and also in trees and shrubs.	Not Likely to Occur. No suitable habitat occurs within the project site.
<i>Aquila chrysaetos</i>	Golden Eagle	BGEPA	FP	Forages in grassland and open savannah of many types. It tolerates considerable variation in topography and elevation. It prefers to hunt moderate-sized prey, especially California Ground Squirrels (<i>Spermophilus beecheyi</i>) and rabbits, but will occasionally take larger prey, such as Mule Deer (<i>Odocoileus hemionus</i>) fawns. Nests on cliffs of all heights, and occasionally in large trees in open areas, in rugged, open habitats with canyons and escarpments. It is very sensitive to human disturbance, especially near nest sites.	Moderate (foraging). No suitable nesting habitat occurs within the project site, but foraging habitat is present, there is abundant evidence of small mammals (i.e., burrows), and this species has been observed foraging within the project vicinity during field surveys for other renewable energy projects.

TABLE 4.4-5: SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status ^a	State Status ^b	Habitat Requirements	Potential to Occur
<i>Athene cunicularia</i>	Burrowing Owl	None	SSC	Inhabits open, dry grasslands, prairie, desert floor, and open scrub habitats. Commonly found in areas altered by man, including flood control channels and basins, abandoned or open fields, agricultural and livestock areas, and road cuts. In California, commonly uses ground squirrels burrows. Also known to utilize piles of broken concrete, old pipes, and other abandoned structures for burrows.	Present. Suitable habitat is found within the project site and this species was observed during protocol surveys conducted in 2018. Five juveniles were detected within the northern portion of the proposed solar field.
<i>Buteo swainsoni</i>	Swainson's Hawk	None	ST	Suitable breeding habitat consists of areas containing Joshua trees, Fremont cottonwoods, or other large trees located adjacent to open fields, including agricultural fields. Forages in open desert, grasslands, agricultural fields, or livestock pastures.	Present. This species was observed nesting within the 5-mile survey buffer outside of the project footprint during the 2018 and 2019 protocol surveys in large trees adjacent to agricultural fields. Marginally suitable nesting and foraging habitat are present in the project site within the Mojave Creosote Bush Scrub with Joshua Trees habitat. However, the quality is low and the species prefers to nest and forage in and around agricultural areas within the Antelope Valley.
<i>Chaetura vauxi</i>	Vaux's Swift	None	SSC	Fairly common as a spring and fall migrant in southern California. In winter, occurs rarely and irregularly in the region. Requires trees, snags, chimneys, or smokestacks with large hollows or cavities for nighttime roosting. Roost sites are found in a variety of forested and urban environments.	Present. This species was incidentally observed during biological surveys conducted in 2018, but would not nest within the project site because it is a migrant species; it does not nest in the region. It may forage and roost overnight in some larger trees within the project site but would generally just pass through on its way north and south during migration.

TABLE 4.4-5: SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status ^a	State Status ^b	Habitat Requirements	Potential to Occur
<i>Charadrius montanus</i>	Mountain Plover	None	SSC	Occurs in short grasslands, plowed fields with little vegetation, and open sagebrush areas. Nests in short-grass prairies in the western Great Plains and Rocky Mountain states, but winters along the Pacific and Gulf Coasts and in the Southwest. In California, generally winters in the Sacramento, San Joaquin, Panoche, Antelope, and Imperial valleys, with very small numbers occurring in the coastal region.	Moderate (wintering). This species does not nest in California. However, suitable wintering habitat occurs in the agricultural fields located outside of the project footprint within the project site surrounding the proposed access roads.
<i>Circus hudsonius</i>	Northern Harrier	None	SSC	This is a medium-small, lightly built bird of prey which hunts low to the ground mostly in open country, nesting on the ground. Prey diversity is high, though small mammals are most commonly taken. This is the only North American hawk that locates much of its prey by hearing as it quarters low over the vegetation. It was formerly a fairly common breeder in much of coastal southern California, but now is nearly extirpated in this role due to loss of native open habitats, especially marshes. It remains fairly common in open country with low human disturbance during migration and in winter.	Present. Suitable habitat is found within the project site and this species was incidentally observed during biological surveys conducted in 2018.

TABLE 4.4-5: SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status ^a	State Status ^b	Habitat Requirements	Potential to Occur
<i>Empidonax traillii</i>	Willow Flycatcher	FE ^c	SE	A broadly distributed species, breeding interruptedly across much of the United States and Canada. In California it is nearly restricted to the Sierra Nevada Mountains and a few populations scattered through southern California. Several subspecies are recognized. Southern California is within the range of the subspecies <i>E.t. extimus</i> (southwestern willow flycatcher). During migration, southern California is host to other subspecies of willow flycatcher passing between breeding areas farther north (Sierra Nevada north to Canada) and their winter range farther south (Central America). These migrants of other subspecies are found in a wide variety of habitats, and are uncommon to fairly common in spring and fall	Present. This species was incidentally observed during biological surveys conducted in 2018. It was not within suitable breeding habitat and would not breed within the project site because no suitable riparian scrub or willow habitat is present and the project site is outside of the current breeding range. The bird that was observed was a transitory migrant passing through on its way to more northern breeding grounds.
<i>Gymnogyps californianus</i>	California Condor	FE	SE, FP	Occurs in semi-arid mountainous areas in California, including the southern Sierra Nevada, Tehachapi Mountains, Transverse Ranges, and the Coast Ranges from Santa Clara County south to Los Angeles County. Forages in open habitats, including grasslands, foothill chaparral, and savannahs, and feeds solely on carrion. Nests and roosts in cliffs on ledges and cavities and in large trees and snags	Not Likely to Occur. The project site is outside of the species' current range and there are no records of occurrence within the project quadrangle or surrounding quadrangles. Suitable habitat is absent from the project site. Mountainous areas for roosting and large sources of carrion are not found in the project site. California condor does occur within the nearby Tehachapi Mountains to the north and west, as well as in the San Gabriel and Liebre mountains to the south, but there are no records within the Antelope Valley, which lacks the topography to provide lift for soaring. Although it is possible that an individual could fly over the project site, it is very unlikely that it would land, as their prey base are absent.

TABLE 4.4-5: SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status ^a	State Status ^b	Habitat Requirements	Potential to Occur
<i>Lanius ludovicianus</i>	Loggerhead Shrike	None	SSC	Found as a common resident and winter visitor throughout California in lowland and foothill habitats, where it frequents open areas with sparse shrubs and trees.	Present. This species was observed foraging and nesting within the project site during 2018 field surveys.
<i>Toxostoma lecontei macmillanorum</i>	Le Conte's Thrasher (San Joaquin population)	None	SSC	Year round resident. Inhabits sparsely vegetated flats, dunes, washes, alluvial fans or gently rolling hills with a high cover of <i>Atriplex</i> or <i>Opuntia</i> .	Not Likely to Occur. The project site is approximately 55 miles east northeast of the edge of the population with SSC status. The entire species held SSC status until 2008. Currently, only the San Joaquin population (<i>T. l. macmillanorum</i>) is designated as a SSC species, which has no potential to occur within the project site. Le Conte's thrasher was observed throughout the main project footprint during 2018 field surveys, but was the subspecies <i>T. l. lecontei</i> , which does not have SSC status.
<i>Xanthocephalus xanthocephalus</i>	Yellow-Headed Blackbird	None	SSC	Most numerous in prairie wetlands, is a conspicuous breeding bird in deep-water, emergent wetlands throughout non-forested regions of western North America. Highly social, these large-bodied blackbirds are polygynous, nesting on grouped territories. Postbreeding birds eat mostly grains, often forming large flocks that forage in uplands and roost in wetlands. Flocks migrate to the southern United States and Mexico for the winter.	Present. This species was incidentally observed as a flyover within the project site and foraging within the project study area along the proposed access roads in ruderal and agricultural fields during biological surveys conducted in 2018. Marginal breeding habitat may be present within the project site, but only if there were suitable vegetation present within or over water, which is an obligatory factor for this species. There are some small stock ponds present in the project site survey area outside of the project limits of disturbance, but breeding suitability would be dependent on conditions at the time, primarily the extent of emergent vegetation present and the extent of water that is present underneath.

TABLE 4.4-5: SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status ^a	State Status ^b	Habitat Requirements	Potential to Occur
Mammals					
<i>Corynorhinus townsendii</i>	Townsend's Big-eared bat	None	SSC	This species generally roost in caves, mines, and buildings. It forages in a variety of habitats including, mixed desert scrub, primarily in riparian corridors, closely following creeks or streams, and edge habitats eating insect prey.	Moderate. Suitable roosting habitat is not present within the project site, but does occur within the surrounding terrain. Suitable foraging habitat exists throughout the project site. While this species was not incidentally observed during any field surveys conducted for the project, all field surveys were performed during daylight hours when bats would not be active.
<i>Onychomys torridus tularensis</i>	Tulare grasshopper mouse	None	SSC	Low open scrub and desert scrub. Historic range extended along foothills and floor of southern San Joaquin Valley from western Merced and eastern San Benito counties, east to Madera County, and south to the foothills of the Tehachapi and San Emigdio mountains.	Low. Suitable desert scrub habitat occurs within the project site. Two CNDDDB records of occurrence are reported within approximately 3 miles northwest of the project site, however, these occurrences were in the lower foothills, not the flat lands (where the project occurs), and are located on the very edge of the species range.
<i>Perognathus alticollis inexpectatus</i>	Tehachapi pocket mouse	None	SSC	Habitat not well defined; generally found in grasslands, desert scrub, pine woodlands, and fallow fields. Burrows for cover and nesting. From Tehachapi Pass, west to Mount Pinos, and south to Elizabeth and Quail Lakes, at elevations from 3,379 feet to 6,004 feet amsl.	Low. Suitable desert scrub habitat project site soils occur within the project site, although the project site and project survey area is just below the typical elevation range for this species. Two CNDDDB records of occurrence are reported within approximately 1 mile north and northwest of the project site. However, these occurrences were in the lower foothills, not the flat lands (where the project occurs).
<i>Taxidea taxus</i>	American badger	None	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Not Likely to Occur. Suitable habitat occurs within the project site. However, no burrows large enough to support this species were found within the project site during 2018 field surveys.

TABLE 4.4-5: SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status ^a	State Status ^b	Habitat Requirements	Potential to Occur
<i>Vulpes macrotis arsipus</i>	Desert kit fox	None	FGC 460	Species occurs throughout much of the Mojave desert but specifically in desert scrub, washes, and arid grasslands.	Present. Habitat at the project site is suitable, and multiple suitable burrows for this species were detected on the project site. An adult and several likely dens were observed in the central, eastern portion of the proposed project footprint, and an individual fox and active complex with approximately ten openings was detected near the central, western portion of the proposed project footprint.
<i>Xerospermophilus mohavensis</i>	Mohave ground squirrel	None	ST	Land supporting desert shrub vegetation within the geographic range of the species. It is restricted to the Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo counties and is rare throughout its range. Populations in southwestern San Bernardino County appear to be extirpated.	Not Likely to Occur. Suitable soils, topography, and habitat to support this species are present within the project site. However, the project site is not within the generally accepted current range of this species and focused trapping surveys in 2018 confirmed the absence of Mohave ground squirrel from the project site. In addition, there are no records of occurrence for this species west of State Route 14 between Palmdale and Mojave, no records within 10 miles of the project site, and survey results for several adjacent solar developments were all negative.

^a Description of Federal Codes: BGEPA = Bald and Golden Eagle Protection Act, FE = Federally endangered, FT = Federally threatened.

^b Description of State Codes: SA = Special Animal, SE = State endangered, ST = State threatened, FP = California fully protected, SSC = California Species of Special Concern, FGS 460 = Take prohibited under FGC 460.

^c All subspecies of willow flycatcher are CESA-listed; only the southwestern subspecies is ESA listed.

SOURCE: ICF 2019a.

Of the fourteen special-status wildlife species identified in Table 4.4-5 above as having the potential to occur within the project study area, eight species were determined to be present: burrowing owl, Swainson's hawk, Vaux's swift (*Chaetura vauxi*), northern harrier (*Circus hudsonius*), willow flycatcher (*Empidonax traillii*), loggerhead shrike, yellow-headed blackbird (*Xanthocephalus xanthocephalus*), and desert kit fox. No species were determined to have a high potential to occur within the project study area. Three species were determined to have a moderate potential to occur within the project study area: foraging golden eagle (*Aquila chrysaetos*), wintering mountain plover (*Charadrius montanus*), and Townsend's big-eared bat (*Corynorhinus townsendii*). Three species were determined to have a low potential to occur within the project study area: desert tortoise, Tulare grasshopper mouse (*Onychomys torridus tularensis*), and Tehachapi pocket mouse (*Perognathus alticolus inexpectatus*). Although Mohave ground squirrel and American badger were determined not likely to occur and desert tortoise a low likely to occur, a discussion for these species are included because project-specific surveys were conducted. Species that are present or have high to moderate potential to occur are also described further below.

Reptiles

Desert Tortoise. Desert tortoise was listed as a threatened species by CDFW in August 1989 (CDFW 2018b) and by USFWS in April 1990 (USFWS 1990). It inhabits the Mojave, Colorado, and Sonoran deserts in the southwestern United States and northwestern Mexico and occurs west of the Colorado River in southwestern Utah, northwestern Arizona, southern Nevada, and California. In California, the desert tortoise occurs in the southwestern portion of the state from Inyo County to Imperial County, including eastern Kern, Los Angeles, San Bernardino, Riverside, and San Diego counties (Berry et al. 2002). Critical habitat has been designated for the species, although none occurs within 20 miles of the project.

Desert tortoises are associated primarily with Mojave creosote bush scrub habitat but have also been found in succulent scrub, cheesebush scrub, blackbush scrub, hopsage scrub, shadscale scrub, microphyll woodland, and Mojave atriplex-allscale vegetation communities (Boarman 2002). This species typically inhabits flats, gently sloping terrain, valleys and bajadas, washes, rocky hillsides, and open flat desert areas with sandy to sandy-gravel soils that offer suitable substrates for burrowing and nesting (Boarman 2002, USFWS 1994). Desert tortoises are typically found at an elevation range of approximately 1,968 to 3,280 feet amsl but have occasionally been found above 3,937 feet amsl (Boarman 2002). Desert tortoises can occupy a home range of 0.75 to 1.5 square miles and travel long distances for resource use (USFWS 1994).

The range of desert tortoise has declined because of several factors, including habitat loss due to human-related activities, disease caused by reintroduction efforts and contamination by humans, illegal collection, road kills, habitat degradation by invasive plants, and predation on tortoises by dogs and on juvenile tortoises by ravens (Berry and Medica 1995).

Desert tortoise activity patterns are controlled primarily by ambient temperature and precipitation. In the western Mojave Desert, desert tortoises are generally most active from April to June, and September to October, when the herbaceous vegetation they prefer (grasses and flowers of annual plants) is most abundant. They have also been known to eat other items, such as insects, lizards, and feces, but these items make up a very small proportion of their diets. In periods of harsh or unusually dry conditions, desert tortoises can retreat to burrows where they lower their metabolism and loss of water and consume very little food. During inactive periods, desert tortoises hibernate, aestivate, or rest in subterranean burrows; they spend approximately 98 percent of the time in these cover sites. During active periods, they usually spend nights and the hotter part of the day in their burrow or resting under shrubs (Boarman 2002).

The project occurs on the western edge of the known range of desert tortoise, and observations in the vicinity are generally scarce despite the numerous surveys that have been conducted in the area. Suitable habitat for desert tortoise is present throughout the project site and project survey area, particularly in Mojave creosote bush scrub with Joshua trees, rabbitbush scrub, and desert saltbush scrub portions of the project area. Focused desert tortoise surveys were conducted in suitable habitat throughout the project site and survey area between April 2 and May 17, 2018. All surveys were negative, with no tortoise burrows, sign, or individuals found anywhere in the project site and survey area. However, a CNDDDB literature review (CDFW 2018a) indicates that there were sightings of desert tortoise or their sign in the general region, with two sightings falling within a 5-mile radius of the site. An adult tortoise was found in 2006 approximately 2.5 miles northeast of the project footprint, and a series of tortoise burrows were found approximately 5 miles west of the project footprint. In addition, two adult tortoises were reported occurring approximately 2 miles northeast of the project footprint during desert tortoise protocol surveys conducted in 2009 for Catalina Solar 1 (Sapphos 2009). Based on these surrounding sightings, the presence of suitable habitat, and the species' known distribution, desert tortoise is considered to have a low potential to occur within the project site.

Birds

Golden Eagle. The golden eagle is a California fully protected species; it is also protected under the Bald and Golden Eagle Protection Act. It is distributed throughout the western half of North America (less commonly in the eastern half) and a year-round resident of most of California (Kochert et al. 2002). California may receive an influx of additional eagles in the winter from more northerly areas (CDFW 2018c). Locally it is a fairly common resident of the Tehachapi Mountains and the Antelope Valley (eBird 2018). It inhabits a wide variety of areas, typically nesting in open grasslands and oak savannas in California, with oak woodlands and shrublands being less commonly utilized. Early successional stages of forests and shrublands may be used (Zeiner et al. 1990). Nests are typically built on cliffs, but may also be built in trees, on the ground, or in human-made structures such as nesting platforms or transmission towers. Foraging habitat typically consists of wide open spaces with abundant mammals as prey; in California, this is often in grasslands.

There is ample foraging habitat for golden eagle in the Antelope Valley and within the project site and survey area, and it has a moderate potential to forage within or near the project. However, it would not be expected to nest within the project site or survey area. Based on surveys conducted in 2018, there are no active or historic golden eagle nests within the project site or survey area. Golden eagles show strong nest site fidelity and approximately 90 percent of pairs reuse existing nests (Kochert et al. 2002). With a lack of any historic nests within the project site or survey area, it is expected that any local pairs are all nesting in the Tehachapi Mountains or in areas and that all or nearly all are returning to their existing nests for each subsequent nesting attempt.

Burrowing Owl. Burrowing owl, a California SSC, occurs in a wide range of mostly open habitats in California, including grasslands, shrub-steppe, deserts, pastures, and agricultural areas. Their range within California extends from Redding south to San Diego, east through the Mojave Desert, and West to San Francisco and Monterey. Little is understood about the migratory movements of burrowing owl. Breeding populations from the northern range of the species are apparently migratory, though southern California populations are probably year-round residents or exhibit opportunistic seasonal movements (Thomsen 1971). Increases in winter population sizes within southern California are probably the result of immigration of owls from more northerly areas (Coulombe 1971). Male burrowing owls that are year-round residents in

southern California may overwinter in burrows within nesting areas, as this allows them to retain possession of their burrows and territories, as well as maintain the burrows (Johnsgard 2002).

Typical burrowing owl habitat includes short vegetation and the presence of small mammal burrows. The key characteristics of suitable habitat are moderately low and sparse vegetation, a prey base of small mammals and insects, and burrows or similar sites (e.g., rock piles) for shelter. This species occurs at low densities in the Antelope Valley, where it is present year-round, as recorded in the CNDDDB and from surveys conducted in support of adjacent solar projects (e.g., the Valentine Solar Project on the western border of the project).

Suitable habitat for burrowing owl is present in the project site and survey area within the Mojave creosote bush scrub with Joshua trees, rabbitbush scrub, desert saltbush scrub, and disturbed habitat vegetation communities. Observed burrows with the potential to support burrowing owl were scattered throughout the proposed project body and along the access roads; one burrow was located along the gen-tie lines. Potential suitability of burrows ranged from poor to high. Less-suitable burrows were located within debris piles or had signs of active desert kit fox use. Burrows with inactive desert kit fox use were of moderate quality for burrowing owl. Burrowing owls were observed at seven locations within the proposed project body: two in the north, one in the southwest, and four in the southeast. Four of the six observations were at burrows. Burrowing owl were confirmed to be breeding within the project site during protocol surveys; five juveniles were detected within the northern portion of the proposed project footprint on June 6, 2018.

Swainson's Hawk. Swainson's hawk was listed as a threatened species by CDFW in April 1983 (CDFW 2018b); it has no federal listing. Swainson's hawk is relatively common and breeds throughout the western United States (west of the Great Plains) but has a severely limited population in California and, particularly, in southern California. Although this species historically bred in small numbers in southern California, its known breeding population is currently isolated to the Antelope Valley in Los Angeles and Kern counties. Swainson's hawk is a medium-sized migratory raptor that prefers open grasslands and agricultural fields for foraging, typically nesting nearby in isolated trees or rows of trees, particularly those near water sources.

Historically, Swainson's hawk was known to nest throughout the entire state of California, with the exception of the Sierra Nevada, northern Coast Ranges, and Klamath mountains, and some of the interior portions of the Mojave and Colorado deserts where suitable nest trees are uncommon. Historic nesting habitat typically encompassed open grasslands and large trees along riparian zones. However, the destruction and conversion of grasslands, denudation of riparian areas, pesticide use, shooting, fire, and use of fire suppressants have all contributed to a loss of suitable habitat or a loss of hawks in general.

Swainson's hawk typically arrive in California between early March and early May. Site fidelity is high among adults, with many birds returning to the same territory each year (CDFW 2016). In the Antelope Valley region of southern California, nests are typically placed in Joshua trees, roadside trees, and windrow or perimeter trees along agricultural areas (CEC and CDFG 2010). Foraging habitat within the Antelope Valley includes pastures, alfalfa fields, fallow fields, row crops, new orchards, and grain crops. Courtship and nesting begins in April, although eggs may not be laid until May. After an approximately 35-day incubation period and an additional 38- to 46-day nestling period, the young fledge (Bechard et al. 2010); most birds in California have fledged by mid-August. Swainson's hawk begin migrating south in late August and early September and typically arrive on their wintering grounds by November.

The Mojave Creosote Bush Scrub with Joshua Trees habitat within the project site provides marginal foraging quality for Swainson's hawk. The creosote bushes onsite are dense and Swainson's hawk in the Antelope Valley generally prefer to forage within open agricultural areas, which reduces the likelihood of

Swainson's hawk foraging on the project site. The Joshua trees onsite provide suitable nesting habitat within the project site; however, nesting potential onsite is low given site conditions (e.g., marginally suitable foraging habitat) and the presence of mature trees adjacent to agricultural fields in the surrounding area, which is the preferred nesting habitat of Swainson's hawk in the Antelope Valley.

During 2018 field surveys, a single Swainson's hawk was observed south of the project site on a fence of another solar project under construction on former agricultural fields. During the same time, other Swainson's hawks were detected foraging in nearby agricultural fields to the east of the project site where the land was being graded. In both instances, the Swainson's hawks appeared to be taking advantage of the displaced rodents from the ground disturbance. All observations were during the time when Swainson's hawk were moving through the area; no Swainson's hawk were observed near the project site in 2019.

Based on the protocol surveys conducted within 5 miles of the project limits of disturbance, it was determined that Swainson's hawk made three nesting attempts in both 2018 and 2019 within the 5-mile survey area of the project site. All three of the nests were located in large trees adjacent to agricultural fields and were outside of the project limits of disturbance, ranging from 1.3 miles to 4.8 miles from the project site. The nests were located in a lone pine tree on the south side of Avenue A between 100th Street and 110th Street, in a row of Chinese elm trees on the northern edge of active agricultural field along Willow Avenue between 150th Street and 157th Street, and in a tamarisk windrow on the western edge of a large, circular agricultural field to the west of Tehachapi Willow Springs Road between McConnell Avenue and Dawn Road). In 2018, one of the attempts was in the same tree as an active common raven nest and was ultimately abandoned. Based on biologist's observations of the two remaining nests, it is assumed that both nests went to completion and that at least three young fledged from these nests. In 2019, construction of one of the nests was abandoned and one of the nests failed. Two to three young were observed in the third nest, and based on the biologist's observations, it is assumed that the nest went to completion and that the young successfully fledged. Ongoing surveys for burrowing owl, desert tortoise, and rare plants from the first week in April to the last week in June confirmed the absence of any Swainson's hawk nesting activity within the project limits of disturbance or associated 500-foot buffer in both 2018 and 2019 (See Appendix F of the project biological resources report [Appendix E]).

Vaux's Swift. The Vaux's swift is a California SSC that is a strict migrant in southern California and does not nest in the region. However, it will use large, hollow trees, chimneys, building shafts, or barns as overnight roosting habitat during migration. It forages mainly over tree canopies, grasslands, and water; while migrating, it prefers forests and open areas (Bull and Collins 2007).

Vaux's swift was incidentally observed migrating through the project site during biological surveys conducted in 2018. This species would not nest within the project site but could roost in it if hollow trees are present anywhere. It should be expected as a regular migrant in the spring and fall.

Mountain Plover. Mountain plover is a California SSC. It breeds in the Great Plains region, primarily in Montana, Wyoming, Colorado, and New Mexico; in California, it is present only as an overwintering species (Knopf and Wunder 2006). Its wintering habitat generally consists of tilled fields, heavily grazed annual grasslands, harvested agricultural fields, and burned fields. It is known to occur in small flocks annually in the Antelope Valley (Shuford and Gardali 2008).

Mountain plover has a moderate potential to occur within the project site. Because surveys were undertaken in the spring and summer, this species had already departed the area. However, the species could occur in the winter in agricultural fields or in low-growing grasslands within the project site survey area but outside of the proposed project footprint.

Northern Harrier. The northern harrier is a California SSC that typically nests and forages in marshes, wet meadows, annual and perennial grasslands, pastures, croplands, weedy fields, and along water bodies where it builds its nests directly on the ground (Shuford and Gardali 2008). Nests are typically placed in dense, often tall vegetation in protected areas, and nesting activity is directly related to prey abundance (generally voles [*Microtus* spp.]). Although nests may be placed in either wet or dry (drained) wetlands, this species prefers to nest on platforms constructed above water, most likely to reduce the risk of predation (Smith et al. 2011). This species has experienced large losses of its historic breeding habitat due to habitat loss, predation, human disturbance, and agricultural practices (e.g., water diversion, crop conversion) but is still believed to be an extant breeder in the Antelope Valley (Shuford and Gardali 2008).

A northern harrier was observed foraging within the project site during biological surveys conducted in 2018. However, although there may be nesting habitat within the project site survey area (primarily in and around stock ponds), based on observations during 2018 surveys, any nesting habitat in the project site or the survey area for this species is most likely very limited, and the observed bird was probably foraging away from its actual nest or was not actively nesting in the area. Nesting is not expected in either the project site nor the survey area because of a lack of quality wetland areas that contain adequate vegetation for nest protection.

Willow Flycatcher. The willow flycatcher is listed by the CDFW as an endangered species throughout California (CDFW 2018b). It is a small, insectivorous, migratory bird that is usually found in dense riparian vegetation occurring along streams or other wetlands (Sogge et al. 2010). The structure of these habitats typically consists of a dense midstory and understory and can also include a dense canopy (USFWS 1995). However, suitable vegetation is not uniformly dense and typically includes interspersed patches of open habitat. Typical plant species associated with their habitat include willow (*Salix* spp.), mule fat (*Baccharis salicifolia*), box-elder (*Acer negundo*), stinging nettle (*Urtica* spp.), cottonwood (*Populus* spp.), Russian olive (*Elaeagnus angustifolia*), and salt cedar. Plant species composition does not seem as important as a dense twig structure and an abundance of live, green foliage (Sogge et al. 2010). Within the habitat structure parameters discussed above, willow flycatchers demonstrate adaptability in that they can occupy riparian habitats composed of native broadleaf species, a mix of native and exotic species, or monotypic stands of exotics (Sogge et al. 2010). Their breeding range in California has been greatly reduced and now primarily includes the Sierra Nevada and Cascade regions, with the species nearly extirpated from southern California where the southwestern subspecies (*E.t. extimus*) was previously more widespread and now is present only in a small number of locations in San Diego County (Sedgwick 2000). This species is no longer believed to nest anywhere else in southern California. The decline of willow flycatcher is primarily due to disturbance and removal of riparian vegetation, water diversions and groundwater pumping, limited food availability and nesting sites, mismanagement of livestock, recreational development, and brood parasitism by the brown-headed cowbird (USFWS 1995).

A single willow flycatcher was incidentally detected within the project site survey area during biological surveys conducted in 2018, and it probably routinely migrates through the project site on its way north to breeding territories in the Sierra Nevada or elsewhere. The project site and its survey area does not contain suitable nesting habitat for willow flycatcher and is outside of the current breeding range of this species. As such, willow flycatcher would be expected to occur only as a transitory migrant.

Loggerhead Shrike. Loggerhead shrike, a California SSC, occurs throughout most of the United States and is a year-round resident of much of the southern half of the country, including southern California. Its decline has been the effect of a number of causes, including intentional killing, pesticide use, and habitat loss. In southern California, habitat loss has been especially detrimental, with most breeding populations

on the coastal slope extirpated (Shuford and Gardali 2008). Inland breeding populations on the desert slope are still extant, however, and were considered fairly common in the Antelope Valley during breeding bird surveys conducted from 1995 to 2000 for the Los Angeles County breeding bird atlas. Coastal populations are typically augmented in the winter by migratory birds that move in either from the north or from inland locations. Typical habitat for loggerhead shrikes includes open countryside with sparse to moderate shrub cover. Nests are typically placed in a hidden location within shrubs, particularly those with thorny branches (Yosef 1996).

Suitable habitat for loggerhead shrike is abundant throughout the project site and its survey area and was incidentally observed in numerous locations during 2018 surveys, including two fledglings in May 2018 within the southeastern portion of the proposed project footprint, confirming that the species breeds on the site.

Yellow-headed Blackbird. The yellow-headed blackbird is a California SSC that has declined on the coastal slopes of southern California but persists in the inland desert areas of the region (Shuford and Gardali 2008). This species was still reported as breeding in a number of locations in the Antelope Valley during breeding bird atlas surveys conducted from 1995 to 2000. The primary threat to yellow-headed blackbird is habitat loss, particularly the loss of thoroughly deep (ideally 2 to 4 feet) marshes and wetlands, because this species is highly dependent on water depth in its breeding sites, which provides protection from predators. Drawdowns of water at breeding locations may lead to nest abandonment or increased nest predation. If food is abundant inside breeding territories, then birds tend to stay local and feed on insects and seeds. If food is scarce, then birds may forage in surrounding cropland and grasslands and may venture out a couple of miles from breeding sites to find food (Twedt and Crawford 1995).

Yellow-headed blackbirds were incidentally observed foraging in agricultural fields within the project site survey area on several occasions during biological surveys conducted in 2018. There are some small stock ponds within the project survey area outside of the project footprint. It is unknown if the habitat provides sufficient nesting habitat for this species. This species may nest within the project site survey area if any ponds are present with deep water and emergent vegetation.

Mammals

Townsend's Big-eared Bat. Townsend's big-eared bat is a California SSC that occurs year-round in nearly all of California and is most abundant in mesic areas (Zeiner et al. 1990). Typical habitats that this species uses include deserts, redwood forests, oak woodlands, and coniferous-deciduous forests. Roosting habitat generally includes caves, mines, tunnels, and buildings. It may use separate roosting areas for a variety of different functions, including separate areas for diurnal and nocturnal uses. This species typically takes moths, beetles, and other insects directly in flight or by gleaning off of the edges of brush or trees. In most cases, Townsend's big-eared bat hibernates in the winter, but it may sometimes remain active if the weather is warm enough.

Townsend's big-eared bat has a moderate potential to occur throughout the project site while foraging, but the project site and its survey area lacks suitable roosting habitat, especially within the project footprint. One CNDDB record of occurrence for this species was reported in 1997 approximately 9 miles to the northeast of the project site within Soledad Mountain near Bobtail Mine (CDFW 2018a). While this species was not incidentally observed during any field surveys conducted for the project, all field surveys were performed during daylight hours when bats would not be active.

American Badger. American badger is an uncommon California SSC that ranges throughout the entire state but is rarely encountered. It is typically found in dry, open areas, including grasslands, shrublands, forests, and herbaceous habitats where it digs burrows for shelter (Zeiner et al. 1990). In summer, individual badgers may dig new dens each night, and they otherwise readily reuse old burrows. They typically breed in summer and fall and may undergo small periods of torpor during the winter.

Burrow surveys were conducted throughout the project site and its survey area from early April to mid-May, and no suitable burrows large enough to support this species were found. Consequently, American badgers are not expected to occur within the project site. However, this species has been detected in the surrounding area (Rincon 2014, Sapphos 2009) and could move into the project site prior to construction.

Desert Kit Fox. Desert kit fox is not a federally or state-listed species and does not receive protection under the FESA, but is protected under CCR, Title 14, Section 460, which prohibits take of this species at any time. Much of the Mojave Desert provides habitat for this species, although its population status and trends are unclear. The CNDDB does not maintain records for this species, so no location records are available for reference, although it is regularly encountered in the Antelope Valley. If any active or potential dens are found on the project site, consultation with CDFW regarding appropriate avoidance and minimization measures would be warranted. This is the smallest fox in North America, with an average body length of 20 inches and weight of about five pounds. Diet varies geographically, seasonally and annually, based on abundance of prey. Found in arid climates, it prefers grasslands, open desert scrub, and occasionally farmland for denning and foraging. They are nocturnal species and feed primarily on nocturnal rodent species including kangaroo rats. Additional prey items include ground squirrels, desert cottontails, mice, insects, carrion and ground-nesting birds. The desert kit fox populations rise and fall with the amount of annual rainfall: more rain means more kit foxes. Changes in precipitation patterns, including reduced rainfall and increase changes of drought, all caused by climate change, and would have an impact on the desert kit fox populations. Dens are usually located deep within a complex of burrows. At least in the western Mojave, desert kit fox dens are frequently located on west- and northwest-facing slopes on friable soils with an absence of stones, caliche, or hardpan (O'Farrell and Gilbertson 1986). Breeding typically occurs in December and January, and pups have usually left the natal den by May.

The entirety of the project site is suitable habitat for desert kit fox. Focused burrow surveys were conducted from early April to mid-May for desert kit fox. Suitable burrows to support this species were detected throughout the proposed project footprint as well as along 140th Street West near the southern portion of the proposed project footprint. In addition, desert kit fox natal den complexes were noted to regularly occur within the project site during surveys in 2018 and 2019. In 2018, an adult and several likely dens were observed in the central, eastern portion of the proposed project body, and an individual fox and active complex with approximately ten openings was detected near the central, western portion of the proposed project footprint. In 2019, two juveniles and four adults were incidentally observed along the proposed genetic lines.

Mohave Ground Squirrel. Mohave ground squirrel was listed as a threatened species by CDFW in June 1971 (CDFW 2018b); it has no federal listing. It is a small ground squirrel (approximately 9 inches long) and distinguished from the more common sympatric white-tailed antelope ground squirrel by the absence of stripes or spots. The Mohave ground squirrel occurs in the Mojave Desert in parts of Inyo, Kern, Los Angeles and San Bernardino counties. The historical range of the Mohave ground squirrel covered approximately 20,000 square kilometers, from Palmdale in the south to Owens Lake in the north and from the eastern edge of the Sierra Nevada to the Mojave River Valley (Gustafson 1993, Leitner 2008).

Mohave ground squirrel occur in a range of open desert habitats. They are most common in creosote scrub but also occur in Joshua tree woodland, desert saltbush scrub, desert sink scrub, desert greasewood scrub, and shadscale scrub (Gustafson 1993). This species typically inhabits areas with open vegetative cover and small bushes (<2 feet in height) spaced approximately 20 to 30 feet apart. Mohave ground squirrel consumes leaves, forbs, shrubs, and grasses of several species and genera, including creosote, winter fat, spiny hop-sage, saltbush (*Atriplex* spp.), golden linanthus (*Linanthus aureus*), Mediterranean grass (*Schismus arabicus*), box thorn (*Lycium* spp.), and several other plant species (Best 1995). Winter fat, spiny hop-sage, and saltbush are thought to make up approximately 60 percent of the species' shrub diet, indicating that these are important food sources when forbs are unavailable. It has been suggested that habitats where winter fat and hop-sage are absent may be suboptimal for Mohave ground squirrel (MGSWG 2011).

Mohave ground squirrel dig burrows in sandy and gravelly soils on flat to moderately sloping terrain. The burrows are used to avoid predators and high temperatures, and aestivate during winter months. Mohave ground squirrel are active only during the spring to summer months and spend most of the year (approximately 7 months) below ground.

The project site and its survey area are not within the generally accepted current range of Mohave ground squirrel (Gustafson 1993; Leitner 2008, 2014). There are no records of occurrence for this species west of SR-14, between Palmdale and Mojave, in over 20 years, and no records within 10 miles of the project site. Survey results for several adjacent solar developments were all negative. No Mohave ground squirrels were captured, observed, or heard within the project site or its survey area during 2018 protocol surveys. Given that no Mohave ground squirrel were detected, the negative results of numerous protocol-level surveys within the vicinity, and the lack of historical records from the area, Mohave ground squirrel is not expected to occur and is considered absent from the project site. Detailed survey results are provided in the Mohave Ground Squirrel Survey Report (Appendix F) of the project biological resources report (Appendix X).

Sensitive Natural Communities

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. No sensitive natural communities are found within or adjacent to the project site.

Critical Habitat

USFWS has not designated or proposed any critical habitats on or near the project site under the FESA (16 USC 1533 (a)(3)). Critical habitat is designated for the survival and recovery of federally listed endangered and/or threatened species. Protected habitat includes areas for foraging, breeding, roosting, shelter, and movement or migration. The USFWS has not designated any critical habitat within 8 miles of the project site.

Wildlife Movement Corridors

The habitat types in the project site and its survey area are dominated by widely spaced shrubs, which do not pose a physical barrier to the movements of most wildlife species. As a result, wildlife can currently move through most of the proposed project unimpeded, as is the case for the Antelope Valley generally.

Scattered washes run generally northwest to southeast, but there is no riparian vegetation to support concentrations of wildlife; all habitats within the project area are xeric and similar to those present in the surrounding areas. The washes are landscape features that are likely to represent wildlife movement corridors locally; however, there is no evidence that they provide avenues for concentrations of wildlife. No known or identified wildlife corridors exist within the proposed project, nor has any part of the proposed project been identified as a wildlife connectivity area as mapped by the *California Essential Habitat Connectivity Project* (Spencer et al. 2010).

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 U.S. Army Corps of Engineers (USACE), CDFW, and/or Regional Water Quality Control Board (RWQCB). The definitions of the extent of regulatory agency jurisdictions are described in the Regulatory Setting below (Subsection 4.4.3).

No waters potentially subject to the jurisdiction of the USACE pursuant to Section 404 of the Clean Water Act were identified at the project site as a result of the jurisdictional delineation survey. USACE has issued a determination of non-jurisdiction for the entire Antelope Valley watershed, including the project site, on the basis that it is a closed basin that functions as an isolated intrastate watershed system which lacks the presence of traditional navigable waters (USACE 2013). The dry lakes that form the terminal basin of the watershed do not have surface waters that are used for industrial or other commercial purposes by interstate commerce industries, which are activities that could trigger USACE jurisdiction for isolated waters.

CDFW exercises jurisdiction over wetlands and riparian resources associated with rivers, streams, lakes, ephemeral streams, desert washes and other watercourses that demonstrate surface or subsurface flows under Sections 1600 *et seq.* of the California Fish and Game Code (CFGF). CDFW has the authority to regulate projects that would substantially divert, obstruct, or change the natural flow of a river, stream, lake, or ephemeral drainage; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed. CDFW's jurisdiction along a river, stream, creek, ephemeral drainage, or other water body is usually bounded by the top-of-bank or the outermost edges of riparian vegetation.

The boundaries for waters of the state subject to regulation by the RWQCB were delineated as the ordinary high-water mark (OHWM, defined in 33 C.F.R. §328.3 as the line on the shore established by fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, or the presence of litter and debris) of the feature (Lichvar & McColley 2008, Lichvar et al. 2009) and was confirmed by the Lahontan RWQCB Victorville Branch Office at the adjacent Valentine Solar Project.

There are 11 features within the solar facility boundary and 54 features along gen-tie routes that are likely jurisdictional waters subject to CDFW jurisdiction per Section 1602 of the CFGF and/or RWQCB jurisdiction under the California Porter-Cologne Water Quality Act and Section 401 of the CWA. A majority of the features subject to CDFW jurisdiction are larger than those subject to RWQCB jurisdiction. The features generally flow from the northwest to the southeast over the majority of the study area. The features are generally characterized as ephemeral, single-thread, low-gradient and low-sinuosity channels lacking riparian or desert wash species. Most are located in Mojave creosote bush scrub with Joshua trees. Some features are located in either lightly or heavily disturbed areas. Many of the features lack obvious bed

or bank characteristics and evidence of concentrated flow, and occur in flat to rolling topography. Water is expected to only flow through the features during localized or high rain events. Many of these features are also discontinuous and do not exhibit flow indicators along their entire length. F-07 is the largest feature with defined bed and bank, but it did not support any riparian or desert wash species. It is approximately 20 feet wide and 10 feet deep at the northern project footprint boundary; it gets narrower and shallower moving downstream, until it is approximately 1-foot wide with no incision.

Several features include floodplain areas that abut or parallel features for a majority of their length (features F-01, F-07, F-15, F-16, F-24, F-27, F-31, F-32, F-36, F-37, F-38, F-39, F-43, F-48, F-49, F-59). These areas of deposition were caused by the extremely high-energy event in February 2015 when flows over-topped some of the streambanks. In feature F-07, there was evidence of large debris that was deposited during the 2015 event, including large logs upwards of 30 feet tall, large boulders, and pine cones from gray pine (*Pinus sabiniana*) originating in the Tehachapi mountains over 10 miles northwest of the project site. Most of the other floodplain features do not exhibit the same amount of large debris, but were likely deposited during the same event that pushed sediment and debris over the banks. Several of the floodplain features along the western gen-tie option (features F-37, F-38, and F-48) occur on very flat land and do not exhibit bed, bank, or other channel characteristics, and are considered depositional areas and CDFW jurisdictional.

In total there are 65 features that total 109.72 acres and 95,608 linear feet of potentially jurisdictional waters subject to CDFW jurisdiction as shown in **Table 4.4-6, *Jurisdictional Delineations identified on the Project Site and 500-Foot Buffer***. There are a total of 7.786 acres and 71,175 linear feet of potentially jurisdictional waters subject to RWQCB jurisdiction. The larger area of potentially jurisdictional CDFW waters as compared to the smaller area of RWQCB waters is the result of including the area between the OHWM and top-of-bank, and the inclusion of floodplain areas discussed above, under CDFW jurisdiction. The longer length of potentially jurisdictional CDFW waters as compared to RWQCB waters is the inclusion of the length of the numerous “fingers” of CDFW waters in floodplain areas that do not exhibit OHWM indicators and the fact that some features only exhibited CDFW jurisdictional top-of-bank characteristics and did not contain OHWM indicators. Vegetation communities that were encountered in the area surrounding the features are also shown in Table 4.4-6.

TABLE 4.4-6: JURISDICTIONAL DELINEATIONS IDENTIFIED ON THE PROJECT SITE AND 500-FOOT BUFFER

Feature ID	CDFW		RWQCB		Description	Potentially Jurisdictional	Vegetation Types
	Area (Acres)	Length (Feet)	Area (Acres)	Length (Feet)			
F-01	15.16	28,764	2.15	17,326	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-02	4.89	14,720	0.63	13,082	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-05	1.08	3,258	0.09	2,556	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-06	5.18	7,675	0.66	3,826	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Mojave Creosote Bush Scrub with Joshua Trees – Disturbed, Developed
F-07	34.26	9,624	1.54	7,084	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Mojave Creosote Bush Scrub with Joshua Trees – Disturbed, Developed
F-07a	0.98	2,651	0.20	2,651	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-08	0.67	1,505	0.03	1,448	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-10	0.03	393	0.005	393	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-11	0.04	605	0.01	605	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-12	0.03	266	0.003	266	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-14	0.71	342	0.13	342	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-15	0.91	773	0.04	281	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-16	2.19	790	0.04	315	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-16a	0 (included in F-16)	0 (included in F-16)	0.01	124	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-17	0.06	285	0.01	285	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-18	0.12	433	0.01	433	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-19	1.65	1,762	0.26	1,762	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-20	0.49	1,021	0.09	1,021	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-21	0.15	76	0.05	76	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees

TABLE 4.4-6: JURISDICTIONAL DELINEATIONS IDENTIFIED ON THE PROJECT SITE AND 500-FOOT BUFFER

Feature ID	CDFW		RWQCB		Description	Potentially Jurisdictional	Vegetation Types
	Area (Acres)	Length (Feet)	Area (Acres)	Length (Feet)			
F-22	0.50	666	0.13	666	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-23	1.25	1,045	0.03	315	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-24	1.73	624	0.09	624	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-25	0.39	324	0.01	324	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-26	0.19	323	0.03	323	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-27	0.18	217	0.05	217	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-28	0.12	343	0.02	343	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-29	0.48	342	0.03	342	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-30	0.19	451	0.08	451	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Disturbed Habitat – Bare Ground
F-31	0.11	334	0.05	334	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-32	2.28	1,869	0	0	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-33	0.32	713	0.14	713	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-34	0.10	322	0.01	322	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-35	0.43	420	0.07	215	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-36	1.93	320	0.04	320	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-37	2.18	300	0	0	Ephemeral Wash – Floodplain Area	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-38	1.20	484	0	0	Ephemeral Wash – Floodplain Area	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-39	1.24	303	0.02	303	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-40	0.17	302	0.01	302	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Rabbitbrush Scrub

TABLE 4.4-6: JURISDICTIONAL DELINEATIONS IDENTIFIED ON THE PROJECT SITE AND 500-FOOT BUFFER

Feature ID	CDFW		RWQCB		Description	Potentially Jurisdictional	Vegetation Types
	Area (Acres)	Length (Feet)	Area (Acres)	Length (Feet)			
F-41	0.26	369	0.07	369	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Disturbed Habitat – Bare Ground
F-42	0.27	313	0.01	313	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-43	1.87	331	0.01	295	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-44	0.24	338	0.04	325	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-45	0.17	333	0.02	333	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-46	0.26	499	0.04	499	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-47	0.45	463	0.05	463	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-48	0.70	302	0	0	Ephemeral Wash – Floodplain Area	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-49	7.11	772	0.04	389	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Rabbitbrush Scrub
F-50	0.09	267	0.02	267	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Disturbed Habitat – Bare Ground
F-51	7.47	1,087	0.09	2,049	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Mojave Creosote Bush Scrub with Joshua Trees – Disturbed, Developed, Disturbed Habitat – Bare Ground
F-52	0.14	314	0.03	314	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-53	0.16	304	0.02	304	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-54	0.08	305	0.02	305	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-55	0.24	573	0.03	573	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-56	0.16	331	0.04	331	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Disturbed Habitat – Bare Ground
F-57	0.26	360	0.02	360	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Disturbed Habitat – Bare Ground

TABLE 4.4-6: JURISDICTIONAL DELINEATIONS IDENTIFIED ON THE PROJECT SITE AND 500-FOOT BUFFER

Feature ID	CDFW		RWQCB		Description	Potentially Jurisdictional	Vegetation Types
	Area (Acres)	Length (Feet)	Area (Acres)	Length (Feet)			
F-58	0.14	322	0.04	322	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Disturbed Habitat – Bare Ground
F-59	2.47	487	0.03	487	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Disturbed Habitat – Bare Ground
F-60	0.59	378	0.18	378	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Disturbed Habitat – Bare Ground, Developed
F-61	1.87	352	0.04	352	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Disturbed Habitat – Bare Ground, Developed
F-62	0.12	559	0.04	559	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-63	0.04	266	0.003	266	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-64	0.27	347	0.08	347	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-65	0.24	383	0.02	383	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
F-66	0.04	205	0.005	205	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees
F-67	0.42	403	0.03	397	Ephemeral Wash	Yes	Mojave Creosote Bush Scrub with Joshua Trees, Developed
Totals	109.70	95,608	7.786	71,175			

4.4.3 Regulatory Setting

Federal

Endangered Species Act of 1973 (USC, Title 16, Sections 1531 through 1543)

The FESA and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. In addition, the FESA defines species as threatened or endangered and provides regulatory protection for listed species. The FESA also provides a program for the conservation and recovery of threatened and endangered species as well as the conservation of designated critical habitat that USFWS determines is required for the survival and recovery of these listed species.

Section 7 of the FESA requires federal agencies, in consultation with and assistance from the Secretary of the Interior or the Secretary of Commerce, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. The USFWS and National Marine Fisheries Service (NMFS) share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in California Code of Regulations (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 NMFS.

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” (U.S. Code Title 16, Section 703). The current list of species protected by the MBTA includes several hundred species and essentially includes all native birds. Permits for take of nongame migratory birds can be issued only for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and personal property.

Bald and Golden Eagle Protection Act of 1940 (USC, Title 16, Section 668, enacted by 54 State. 250)

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 protects bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of these species, and establishes civil penalties for violation of this act. Take of bald and golden eagles includes to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” To disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. (Federal Register [FR], 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 RWQCB administers the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S. Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. USACE implementing regulations are found at CFR, Title 33, Sections 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency (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.

State

California Endangered Species Act (California Fish and Game Code Section 2050 et seq.)

The CESA establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under the CESA. For projects that would affect a listed species under both the CESA and the FESA, compliance with the FESA would satisfy the CESA if CDFW determines that the federal incidental take authorization is “consistent” with the CESA under CFGC Section 2080.1. For projects that would result in take of a species listed under the CESA only, the project proponent would have to apply for a take permit under Section 2081(b).

Regional Water Quality Control Board

Under Section 401 of the CWA, the RWQCB must certify that actions receiving authorization under Section 404 of the CWA also meet state water quality standards. The RWQCB also regulates waters of the state under the Porter-Cologne Act Water Quality Control Act. The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. The RWQCB typically requires compensatory mitigation for impacts to wetlands and/or waters of the state, which may include waters deemed ‘isolated’ or not subject to Section 404 jurisdiction, under the Solid Waste Agency of Northern Cook County (SWANCC) legal decision. The thrust of the SWANCC legal decision is that isolated, non-navigable, and intrastate waters are not “waters of the United States” subject to USACE jurisdiction under the Clean Water Act. Filling, dredging, or excavation of isolated waters may constitute a discharge of waste to waters of the state and if so, then prospective dischargers are required to file a Report of Waste Discharge to obtain Waste Water Discharge Requirements as authorization for that fill or waiver thereof from the RWQCB.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the state fall under the jurisdiction of the appropriate RWQCB. Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the CWA.

California Fish and Game Code

Section 460. Under this section of the CFGC, desert kit fox may not be taken at any time.

Sections 1600 through 1616. Under these sections of the CFGC, the project proponent is required to notify CDFW prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of

any river, stream, or lake. Pursuant to the code, a “stream” is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that supports or has supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial watercourses valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water during storm events. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement, which becomes part of the plans, specifications, and bid documents for the project.

Sections 2080 and 2081. Section 2080 of the CFGC 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 [NPPA], 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 CFGC, the project proponent is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds of prey or their nests or eggs; the taking or possessing of any migratory nongame bird as designated in the MBTA; the taking, possessing, or needlessly destroying of the nest or eggs of any bird; or the taking of any nongame bird pursuant to 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 CFGC. These statutes prohibit take or possession of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species.

Sections 4000 through 4003. Under Section 4000 of the CFGC, it is unlawful to conduct activities that would result in the taking, possessing, or destroying of any fur-bearing mammals, including kit foxes, without prior authorization from the CDFW.

CEQA Guidelines, Section 15380

In addition to the protections provided by specific federal and state statutes, CEQA *Guidelines* Section 15380(b) provides that a species not listed on the federal or state list of protected species nonetheless may be considered rare or endangered for purposes of CEQA if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the ESA and the section of the CFGC dealing with rare or endangered plants or animals. This section was included in CEQA primarily to deal with situations in which a public agency is reviewing a project that may have a significant effort on, for example, a candidate species that has not been listed by either USFWS or CDFW. Thus, CEQA provides

an agency with the ability to protect a species from the potential impacts of a project until the respective government agencies have an opportunity to designate the species as protected, if warranted. CEQA also calls for the protection of other locally or regionally significant resources, including natural communities. Although natural communities do not at present have legal protection of any kind, CEQA calls for an assessment of whether any such resources would be affected and requires findings of significance if there would be substantial losses. Natural communities listed by CNDDDB 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) 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 ten 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 Plant Protection Act (California Food and Agricultural Code Sections 800071 through 80075)

The California Desert Native Plant Protection Act affords protection to certain native desert plant species to make the harvest, transport, sale, or possession of these species unlawful unless a permit is first obtained. It restricts harvesting of the following plants, except for educational or scientific purposes under a permit issued by the commissioner of the county in which the native plants are growing:

- All species of the genus *Burseraceae* family (such as elephant tree [*Bursera microphylla*], saguaro cactus [*Carnegiea gigantea*], barrel cactus [*Ferocactus acanthodes*], and panamint dudleya [*Dudleya saxosa*])

The California Desert Native Plant Protection Act also restricts harvesting of the following species, except under a permit issued by the commissioner of the sheriff of the county in which the native plants are growing:

- All species of the agave family (*Agavaceae*)
- All species of the genus *Prosopis*
- All species of the genus *Cercidium*
- All species of the cacti family *Cactaceae*, besides saguaro and barrel cactus which are protected as described above.
- All species of the ocotillo & candlewood family *Fouquieriaceae*
- Catclaw (*Acacia greggii*), desert-holly (*Atriplex hymenelytra*), smoke tree (*Dalea spinose*), and desert ironwood (*Olneya tesota*)

Local

Kern County General Plan

The Kern County General Plan identifies the federal, state, and local statutes, ordinances, and 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.

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

1.10 General Provisions

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: The County should work closely with State and Federal agencies to assure that discretionary projects avoid or minimize impacts on fish, wildlife, and botanical resources.
- Policy 29: The County will seek cooperative efforts with local, State, and Federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.
- Policy 31: Under the provisions of CEQA, the County, as lead agency, will solicit comments from the CDFW and the USFWS when an environmental document (Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report) is prepared.
- Policy 32: Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.

Implementation Measures

- Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.
- Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.
- Measure S: Pursue the development and implementation of conservation programs with State and federal wildlife agencies for property owners desiring streamlined endangered species mitigation programs.

Chapter 5. Energy Element

5.2 Importance of Energy to Kern County

Policy

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.

Chapter 19.81, Dark Skies Ordinance (Outdoor Lighting)

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

- Objective 1: Encourage a safe, secure, and less light-oriented night-time environment for residents, businesses and visitors.
- Objective 2: Promote a reduction in unnecessary light intensity and glare, and to reduce light spillover onto adjacent properties.
- Objective 3: Protect the ability to view the night sky by restricting unnecessary upward projections of light.
- Objective 4: Promote a reduction in the generation of greenhouse gases by reducing wasted electricity that can result from excessive or unwanted outdoor lighting.

Willow Springs Specific Plan

The southern portion of the proposed project site (approximately 1,298 acres) occurs within the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in 1992 and amended in 2008 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 needs of the expanded Willow Springs area. The biological resources-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County Department of Planning and Development Services 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

Resource

Policy

Policy 3: To ensure compliance with applicable State and federal laws and to protect the biological resources present in the Specific Plan area.

Mitigation/Implementation Measures

- Measure 15: Where possible, project development within the Specific Plan Update area shall be designed to avoid displacement or destruction of Joshua tree habitat, to the satisfaction of the Kern County Agricultural Commissioner's Office. Areas adjacent to the woodland shall have a 50-foot setback from the Joshua tree plants. Within that setback, a native plant cover should be restored to natural habitat values to serve as a bugger, if such plant cover is not present.
- Measure 16: A Joshua Tree Preservation and Transportation Plan shall be developed by the applicants for each parcel where Joshua trees are located on site. The plan shall be submitted to the Kern County Agricultural Commissioner's office for review and approval to grading permit issuance.
- Measure 23: A Joshua Tree Preservation and/or Transplantation Plan shall be developed by applicants of discretionary projects for each parcel where Joshua trees are located on site. The plan shall be submitted to the Kern County Agricultural Commissioner for review and approval prior to grading permit issuance.
- Measure 24: Prior to issuance of any grading permits for individual projects, individual project applicants shall consult with the Regional Water Quality Control Board, State Department of Fish and Game and/or U.S. Fish and Wildlife Service, and the Army Corps of Engineers to identify potentially required permits. Compliance with this measure will be confirmed through the submittal of a letter (in conjunction with submittal of grading permit applications) to the County demonstrating compliance with the above-mentioned agencies.
- Measure 25: Prior to issuance of permits, individual project applicants shall obtain appropriate permits as determined necessary by the Regional Water Quality Control Board, U.S. Fish and Wildlife Service, State Department of Fish and Game, and Army Corps of Engineers.

Biological Resources***Policies***

- Policy 1: Where possible, development shall be designated to avoid displacement of sensitive species.
- Policy 2: Focused surveys shall be conducted by a County-approved biologist to establish the presence or absence of sensitive species.
- Policy 3: Initial development within the area covered under the Willow Springs Specific Plan, when possible, will be directed towards previously impacted areas.

4.4.4 Impacts and Mitigation Measures

This section evaluates the impacts to biological resources that may occur during construction and operation of the proposed project. It describes the sensitive biological resources located on and adjacent to the project site that may be affected and identifies the thresholds used to determine whether an impact would be

significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, where applicable.

Methodology

The following impact analysis is based on existing and potential biological resources occurring within the project site and vicinity of the project identified through a review of relevant literature and a general biological resource assessment. Biological resources evaluated included sensitive habitats, special-status plant and animal species, and potential for wildlife movement corridors. The potential for special-status species to occur on the project site is based on the results of database research, biological assessments, surveys conducted on the project site and vicinity, presence of suitable habitat, and the proximity of the project site to previously recorded occurrences in the CNDDB, CDFW, and USFWS data. Other sources of information used include aerial photographs, topographic maps, soil survey maps, geological maps, climatic data, previous biological studies, and project plans.

Reconnaissance and directed surveys for sensitive plants, animals and other biological resources were conducted on the project site from March through September of 2018 and April through July 2019. The impact analyses presented here address potential biological resources located on the project site based on results of field surveys detailed in Appendix X of this 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 adverse effect on biological resources.

A project would 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;
- e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Project Impacts

Impact 4.4-1: The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Overview

The proposed project has the potential to impact special-status plants and wildlife through the loss of habitat, as well as direct and indirect impacts on species, such as mortality of individuals, interference with reproductive success, introduction of invasive species, and habitat degradation. Potential impacts to special-status plants and wildlife from construction, operation and maintenance, and decommissioning are discussed below.

Construction

Special-Status Plants

The project site contains five special-status or protected plant species: alkali mariposa lily, Mojave spineflower, Joshua tree, silver cholla, and beavertail cactus. Additionally, the project site contains habitat for six other special-status plants with a high to moderate potential to occur on site: (high potential) golden goodmania; (moderate potential) Peirson's morning-glory, white pygmy-poppy, Clokey's cryptantha, sagebrush loeflingia, Latimer's woodland-gilia, and recurved larkspur. Direct impacts to the special-status plants and their habitat may include mortality of individuals as a result of permanent removal or damage to root structures during the construction phase of the project through activities like clearing vegetation and removal of suitable habitat. Though all of the individual alkali mariposa lily and Mojave spineflower observed were located just outside of the project limits of disturbance adjacent to the proposed access roads, direct effects to these species from project construction could also include direct mortality of individual plants and plant injury as a result of trampling by construction vehicles or personnel or from unauthorized collection. Other direct impacts may include clearing and grading activities that could disturb and compress soils, potentially destroying seed banks and preventing or reducing future utilization of the area by these species. Indirect impacts may include construction-related dust, erosion, runoff, and introduction of invasive species on disturbed soils. Increased dust during construction activities could decrease a plant's ability to photosynthesize. This could result in diminished reproduction or loss of special-status plants. Construction equipment, vehicles, or imported materials could introduce and spread non-native invasive plant species within the project area, which could outcompete special-status plants for resources such as water and space. In addition, suitable habitat could become monotypic, thereby reducing quality and diversity of native vegetation communities on site.

Direct and indirect impacts to alkali mariposa lily and Mojave spineflower, silver cholla, and beavertail cactus would be considered significant. Similar direct and indirect impacts to golden goodmania, Peirson's morning-glory, white pygmy-poppy, Clokey's cryptantha, sagebrush loeflingia, Latimer's woodland-gilia, and recurved larkspur would also be considered significant. Joshua trees and protected cactus occur

throughout the project site and removal will be mitigated by obtaining a harvest permit. Impacts to remaining sensitive plants would be mitigated to a level of less than significant through the implementation of special-status plant avoidance and minimization measures described in Mitigation Measure MM 4.4-1 through MM 4.4-6.

Direct impacts to golden goodmania, Peirson's morning-glory, white pygmy-poppy, Clokey's cryptantha, sagebrush loeflingia, Latimer's woodland-gilia, and recurved larkspur would not occur.

Other special-status plants that have a low potential to occur include Horn's milk-vetch, Kern County evening-primrose, Rosamond eriastrum, pale-yellow layia, Tehachapi monardella, and Lemmon's syntrichopappus. These potential impacts could be mitigated to a less than significant level through implementation of avoidance and protection measures detailed in Mitigation Measure MM 4.4-3. Because of the low potential of occurrence, no mitigation beyond Mitigation Measure MM 4.4-3 is required for potential impacts to Horn's milk-vetch, Kern County evening-primrose, Rosamond eriastrum, pale-yellow layia, Tehachapi monardella, and Lemmon's syntrichopappus.

With implementation of Mitigation Measures MM 4.4-1 through MM 4.4-6, impacts to special-status plant species would be less than significant.

Special-Status Wildlife

Special-status wildlife species confirmed present for the project site include burrowing owl, Swainson's hawk, Vaux's swift, northern harrier, willow flycatcher, loggerhead shrike, yellow-headed blackbird, and desert kit fox. Additionally, the following three special-status species have a moderate potential to occur onsite: golden eagle, mountain plover, and Townsend's big-eared bat. While Vaux's swift, northern harrier, willow flycatcher, golden eagle, mountain plover, and Townsend's big-eared bat may occur as migrates or foraging birds on the project site, no suitable nesting habitat for these bird species or roosting habitat for this bat species is present on the project site, and thus no significant impacts to these species would occur. Three special-status species that have a low potential to occur are desert tortoise, Tulare grasshopper mouse, and Tehachapi pocket mouse. Both the Tulare grasshopper mouse and Tehachapi pocket mouse are known to be in the vicinity of the project but previous records have indicated that they are only found within the lower foothills and not the flat lands where the project site is located. Therefore, no significant impacts to this species would occur. Suitable habitat for several migratory birds and raptors protected under the MBTA and the CFGC are also present. Construction of the project could result in the direct impacts of these special-status species if any are present. Individual discussions for species determined to have the potential for significant impacts are further discussed below.

Burrowing Owl. Direct impacts to the burrowing owl and its habitat could occur as a result of project construction through the loss of available habitat and potential breeding burrows due to construction activities and increased human presence. Based on focused surveys conducted in 2018, one active nest on the project site successfully fledged chicks. Additionally, five likely wintering burrowing owls were present within the project site. Besides direct impacts to burrows and habitat, construction activities could directly impact occupied burrows resulting in injury or mortality to individual owls. Birds flying away from burrows could collide with machinery or vehicles and are more likely to be predated by other animals such as red-tailed hawks and coyotes. Indirect impacts could also occur during construction if burrowing owls are nesting in adjacent offsite areas within 500 feet of the project site, and noise from construction activities harasses an owl to the point of abandoning an active burrow. Other indirect impacts include vehicle emissions, dust, habitat degradation from introduction of non-native plants or other factors. Any adverse

direct or indirect impacts to burrowing owls as a result of construction would be considered significant under CEQA. However, implementation of Mitigation Measures MM 4.4-2 through 4.4-4 and MM 4.4-6, which include worker training, avoidance and protection of biological resources, preconstruction surveys to identify any active or potential burrowing owl burrows that may require avoidance and protection, would reduce the potential impacts. Mitigation Measure MM 4.9-2 also requires applying non-toxic herbicide if burrows, dens, or nests are found. Implementing these mitigation measures would ensure that nesting or foraging burrowing owls impacted during construction are mitigated for. With implementation of these mitigation measures, impacts to burrowing owl would be less than significant.

Swainson's Hawk. Although Swainson's hawks occur in the area, the project site has a low potential for nesting for this species, which has a decreasing presence in this area and recently has nested around agricultural areas in the Antelope Valley. Although the project site may contain some suitable nesting habitat for Swainson's hawk in the onsite Joshua trees, it is unlikely that this species would nest at the project site. Swainson's hawk forage in suitable habitat adjacent to their nest sites and show nest site fidelity. Although site development would result in the permanent loss of Mojave Creosote Bush Scrub with Joshua Trees, this loss is expected to have a minimal effect, if any, on this species' habitat availability in the immediate area and this reduction in habitat would not be considered a significant impact. Should the species happen to be present during construction activities, the project would have the potential to directly impact this species through mortality or injury, if not able to fly out of harm's way. Potential impacts would be avoided through impact minimization measures, including avian nesting surveys that would detect any nesting Swainson's hawk within the project vicinity per Mitigation Measure MM 4.4-7. Potential impacts would be further reduced through implementation of Mitigation Measures MM 4.4-2 through MM 4.4-4 and MM 4.9-2 which include worker training, general avoidance and protection measures, preconstruction surveys prior to initial grading activities, and applying non-toxic herbicide if burrows, dens, or nests are found. With implementation of these mitigation measures, project level impacts to Swainson's hawk would be less than significant.

Loggerhead Shrike. The project site contains suitable nesting and foraging habitat for loggerhead shrike and this species was documented nesting onsite. The loggerhead shrike is regionally sensitive and is listed as special-status by CDFW as a species of special concern. In addition, the species is afforded protection as migratory species under the MBTA and during the nesting season as native birds protected under CFGC Section 3500. Direct impacts to loggerhead shrike and its habitat could occur as a result of project construction from removal of vegetation that provides suitable habitat for this species during the nesting season of February through August. The act of removing habitat may additionally result in destruction of nests and vehicular strikes to birds that are attempting to flee the disturbance, which could result in injuries or mortality. Potential indirect effects on loggerhead shrike include impacts resulting from decreased suitability of habitat in the proposed project vicinity resulting from various factors such as increased noise from construction activities and vehicles, vehicle emissions, dust, and other human activity. Construction activities could disrupt breeding and foraging activities, and could prevent birds from attending to nests or could cause birds to flush from their nests, endangering eggs and chicks. Implementation of Mitigation Measures MM 4.4-6 and MM 4.4-7 would reduce any potential impact to this species to a less than significant level through pre-construction surveys and nest avoidance.

Yellow-headed Blackbird. The project site does not contain suitable nesting habitat or foraging habitat for yellow-headed blackbird. Suitable foraging habitat does occur in the project survey area within the buffer outside of the project footprint within ruderal land cover and agricultural fields and marginally suitable breeding habitat may occur should suitable emergent vegetation and standing deep-water be present. This

species was observed flying over the project site and foraging within the project study area along the proposed access roads in ruderal and agricultural fields during biological surveys conducted in 2018. The yellow-headed blackbird is listed as special-status by CDFW as a species of special concern. In addition, the species is afforded protection as migratory species under the MBTA and during the nesting season as native birds protected under CFGC Section 3500. Because this species is not expected to nest within the project limits of disturbance, direct impacts on yellow-headed blackbird and its habitat are not expected. Implementation of Mitigation Measures MM 4.4-6 and MM 4.4-7 would reduce any potential indirect impact to this species to a less than significant level through pre-construction surveys and nest avoidance.

Desert Kit Fox. Desert kit fox sign and burrows were observed within and in the vicinity of the project site. Active natal den complexes were also noted during the 2018 Mohave ground squirrel surveys and two juveniles and four adults were incidentally observed within the project site during 2019 surveys. Direct impacts to the species and its habitat could include the loss of available habitat and potential burrows due to construction activities and increased human presence. Direct impacts on individuals could result from adults or young being crushed in dens or from collisions with vehicles, resulting in injury or death. These types of potential impacts to this species would be considered significant. Potential impacts would be avoided through impact minimization measures including preconstruction surveys to determine presence and avoidance or relocation to reduce potential impacts to the species per Mitigation Measure MM 4.4-6. Potential impacts would be further reduced through implementation of Mitigation Measures MM 4.4-2 through MM 4.4-4 and MM 4.9-2, which include worker training, general avoidance and protection measures, preconstruction surveys prior to initial grading activities, and applying non-toxic herbicide if burrows, dens, or nests are found. With implementation of these mitigation measures, impacts to desert kit fox would be less than significant.

Desert Tortoise. The primary direct impacts on desert tortoise as a result of the project would occur from the permanent removal of suitable habitat due to initial grading of the site, permanent project features (i.e., O&M facility, battery storage, substation, inverters, tower pads), and associated access and spur roads. The direct loss of habitat resulting from construction activities would reduce the available amount of habitat in the region for this species. If present on the project site at the time of construction activities, it is possible that tortoises could be injured or crushed by onsite equipment or vehicles or could experience dehydration if startled by project personnel (resulting in evacuation of their internal water supply). If any tortoises are in burrows and the burrows go undetected, tortoises or their eggs could be crushed during construction activities. Common ravens, a notable predator of juvenile desert tortoises, are common throughout the project site and could injure or kill juvenile desert tortoise if present. However, given the negative results of the desert tortoise protocol surveys, it's unlikely that desert tortoise are present on the project site. Temporary indirect impacts on desert tortoise could occur from construction-related noise and ground vibration, construction-related dust, sedimentation, and habitat degradation. To reduce potential significant impacts to desert tortoise, Mitigation Measure MM 4.4-3 through MM 4.4-6 should be implemented. With the implementation of these mitigation measures which include monitoring, protocol-level preconstruction survey for desert tortoise, and general wildlife avoidance measures, impacts would be less than significant.

Migratory Birds. Project-related direct impacts on nesting birds during construction could include crushing of or vehicle collisions with nesting birds and/or destruction of nests and eggs during vegetation clearing and grading with heavy machinery. Potential indirect impacts include interference with reproductive success and nest abandonment in adjacent areas from increased human presence and increased noise levels (and vibration) from project construction. Reproductive and nest impact could occur if construction occurs during the breeding season, which is generally considered to be February 1 through

August 31 in the Mojave Desert. Impacts to these species would be considered significant. To reduce potentially significant impacts to nesting birds, Mitigation Measure MM 4.4-7 requires implementation of preconstruction nesting bird surveys as well as avoidance and minimization measures if active nests are found. Mitigation Measure MM 4.9-2 also requires applying non-toxic herbicide if burrows, dens, or nests are found. Impacts to nesting or foraging birds would be less than significant during construction.

Operations and Maintenance

Direct impacts to special-status species are unlikely to result from project operation and maintenance activities because project implementation would remove habitat for special-status species on the project site, which would restrict sensitive wildlife species movement into the project site. Additionally, Mitigation Measure MM 4.4-3 require methods designed to reduce wildlife mortality and impacts, promote long-term project site suitability, and educate onsite personnel. Project operation could result in indirect impacts to wildlife in proximity of the project if nighttime lighting is used. 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. The proposed project would also comply with Kern County's Dark Skies Ordinance to minimize nighttime lighting in unincorporated areas of Kern County. Compliance with this measure to minimize nighttime lighting would reduce indirect impacts to wildlife to a less than significant level.

Golden Eagle and Swainson's Hawk

Although raptor prey sources such as rodents and small birds are still likely to inhabit the area around solar panels on the project site, the solar panels may provide shielding, 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 Swainson's hawk would use the project site for foraging due to the dense creosote bushes onsite and the absence of agricultural fields, which is this species preferred type of foraging habitat in the Antelope Valley. Therefore, impacts would be less than significant due to the low potential for Swainson's hawk to occur on site. Given the undeveloped areas to the south of the project site and the considerable amount of space (miles) a golden eagle requires to forage, the project site would not significantly impact this species while foraging in the area. In addition, the majority of current solar projects make use of non-reflective glass that minimizes the lake effect, a required design feature per Mitigation Measure MM 4.1-4, as provided in Section 4.1, *Aesthetics*. The project is unlikely to be large enough to result in raptor mortality impacts that exceeds background levels enough to have an adverse effect on the overall population. Impacts would be less than significant.

Migratory Birds. Direct and indirect impacts to avian species may occur during project operation and maintenance through individual collisions with project facilities and equipment including transmission wires, fencing, array structures, and heavy equipment. Such risks are commonplace with most human development activities. Factors that determine the risk of avian collisions with man-made structures include the size, height, and specific attributes of structures (guy wires and lighting/light attraction). Other factors include the siting in high-risk areas, frequency of inclement weather, type of development, and the species at potential risk. Such collisions can result in injury or mortality of avian species from electrocution, including in the case of power lines. Collisions with project facilities and equipment would be considered a potentially significant impact under CEQA.

Potential indirect impacts to migratory bird species from the operations and maintenance phase of the project may occur through “lake effect” from utility-scale solar panel arrays. The lake effect refers to the perception of solar panels as water by birds. Solar panels are both reflective and have a strong polarization signature, which are elements thought to mimic water or related suitable habitat. As a result, some have theorized that solar panels can attract bird species that mistake the panels for bodies of water, potentially leading to increased collisions, stranding within site fencing once they land, or other forms of distress. The lake effect is at present a hypothesis that remains unsupported by empirical research. The cause of avian injuries and fatalities at commercial-scale solar projects are being evaluated by the USFWS, CDFW, and others. No formal studies have been conducted at commercial-scale solar projects that establish a clear causal link between such projects and the types of avian mortality and injury documented on existing solar project sites. Additionally, solar panels and hardware are designed to minimize glare and spectral highlighting, as described in Mitigation Measures MM 4.1-4 and MM 4.1-5, as provided in Section 4.1, *Aesthetics*. The program would monitor avian mortality at the project site during operations and maintenance and provide quarterly reporting and adaptive management recommendations to reduce the level of avian mortality to less than significant levels.

Decommissioning

Upon decommissioning of the proposed project after approximately 35 years, the project site would be disturbed, devoid of native habitat, and have compacted soil from years of vehicle traffic. The post-project condition of the project site as a result of project construction and operation would be different than pre-project conditions. If special-status species have recolonized the project site during operation, decommissioning could impact these species. However, Mitigation Measures MM 4.4-2 and 4.4-3 require construction worker training and measures for avoidance and protection of biological resources. Implementation of these mitigation measures during the decommissioning period would reduce potentially significant impacts to special-status wildlife and plant species to less than significant.

Mitigation Measures

Kern County

- MM 4.4-1: Biological Monitoring.** 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 U.S. Fish and Wildlife Service (USFWS) to oversee compliance with protection measures for all listed and other special-status species. The Lead Biologist shall be on the project site during construction of perimeter fencing and grading activities throughout the construction phase. The Lead Biologist shall have the right to halt all activities that are in violation of the special-status species protection measures. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. The Lead Biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted on the project site.
- MM 4.4-2: Construction Worker Environmental Awareness Training and Education Program.** Prior to the issuance of grading or building permits and for the duration of construction activities, within one week of employment all new construction workers at the project site, laydown area and/or transmission routes shall attend an Environmental Awareness Training and Education Program, developed and presented by the Lead Biologist. Any

employee responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Environmental Awareness Training and Education Program.

The program shall include information on the life history of the desert tortoise; burrowing owl; golden eagle, Swainson's hawk, and other raptors; nesting birds; American badger; desert kit fox; as well as other wildlife and plant species that may be encountered during construction activities. The program shall also discuss the legal protection status of each species, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the project operator is implementing to protect the species, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species, and penalties for violation of the Federal Endangered Species Act or California Endangered Species Act.

- i. An acknowledgement form signed by each worker indicating that Environmental Awareness Training and Education Program has been completed would be kept on record;
- ii. A sticker shall be placed on hard hats indicating that the worker has completed the Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker;
- iii. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the Environmental Awareness Training and Education Program and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Community Development Department; and
- iv. The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits.
- v. An Operation and Maintenance-phase version of the WEAP will be maintained within the onsite O&M facility for review as may be necessary during the life of the project.

MM 4.4-3: Avoidance and Protection of Biological Resources. During construction, operations and maintenance, and decommissioning the project operator shall implement the following general avoidance and protective measures:

- a) All proposed impact areas, including solar fields, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided.
- b) The project operator shall limit the areas of disturbance to the extent feasible. Parking areas, new roads, staging, storage, excavation, and disposal site locations 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.
- c) Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best Management Practices shall be employed to prevent erosion in accordance with the

project's approved Stormwater Pollution Prevention Plan (SWPPP). All detected erosion shall be remedied within two days of discovery or as described in the SWPPP.

- d) To prevent inadvertent entrapment of desert kit foxes, American badgers, or other wildlife during construction, all excavated, steep-walled holes or trenches more than two feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks. All holes and trenches, whether covered or not, shall be inspected for trapped wildlife at the start and end of each workday. Before such holes or trenches are filled, they shall be thoroughly inspected by the Lead Biologist or approved biological monitor for trapped wildlife. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. If a listed species is found trapped, all work shall cease immediately. If the animal is apparently uninjured, then the Lead Biologist shall directly supervise the provision of escape structures and/or trench modification to allow the trapped animal to escape safely. Work shall not resume in the vicinity of the animal, and it shall be allowed to leave the work area and project site on its own. If the listed animal is injured, then the Lead Biologist or approved biological monitor shall immediately contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife to identify an individual with the appropriate permit or authorization to handle listed species, who shall bring the animal to a pre-identified wildlife rehabilitation or veterinary facility for care.
- e) Burrowing owls, mammals, and nesting birds may use construction pipes, culverts, or similar structures for refuge or nesting. All towers shall be of the monopole variety and all hollow vertical structures, such as solar mount poles, or fencing poles, shall be capped immediately after installation to prevent bird entrapment. Therefore, all construction pipes, culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until the Lead Biologist has been consulted and the animal has either moved from the structure on its own accord (for listed species) or until the animal has been captured and relocated (for non-listed species) by the Lead Biologist. If the animal is a listed species, then work shall immediately halt in the vicinity, and the animal shall be allowed to move from the structure and the work area of its own accord. The Lead Biologist will direct work stoppages near the animal to allow it to freely move out of the pipe and away from the work area. Listed species shall not be handled or captured by anyone without the appropriate permit or authorization.
- f) No vehicle or equipment parked on the project site shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own.
- g) 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.
- h) A speed limit of 15 miles per hour shall be enforced within the limits of the proposed project.

- i) A long-term trash abatement program shall be established for construction, operations and maintenance, 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.
- j) Workers shall be prohibited from bringing pets and firearms to the project area and from feeding wildlife.
- k) Intentional killing or collection of any plant or wildlife species shall be prohibited.
- l) To enable kit foxes and other wildlife (e.g., American badger) to pass through the project site after construction, the security fence, and any permanent interior fencing shall be a wildlife friendly design that meets the goals of allowing wildlife to move freely through the project site during operation, leaving 4- to 7-inch openings or portals in the fence or the fence shall be raised 7 inches above the ground leaving a gap between the fence mesh and the ground. In the latter case the bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence.

MM 4.4-4: Preconstruction Clearance Surveys. The Lead Biologist or approved biological monitor shall monitor all initial ground-disturbance activities and remain on-call throughout construction in the event a special-status species wanders into the project site.

Preconstruction surveys for special-status species shall be conducted within the project boundaries by the Lead Biologist or approved biological monitor within 14 days of the start of any vegetation clearing or grading activities. Methodology for preconstruction surveys shall be appropriate for each potentially occurring species-status species and shall follow U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife preconstruction survey guidelines where appropriate. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days of the portion of the project site being disturbed. The Lead Biologist may use a variety of approaches (including but not limited to monitoring, track plates, and direct observation) and evidence (including burrow characteristics and presence of sign such as scat and tracks) to determine burrow activity. If any evidence of occupation of the project site special-status species is observed, a buffer shall be established by a qualified biologist that results in sufficient avoidance, as described below.

If desert tortoise are found onsite during subsequent surveys or biological monitoring activities, construction activities shall cease to avoid the potential for take and consultation with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be initiated to obtain the necessary incidental take permit authorizations or provide evidence such a permit is not required.

Preconstruction surveys shall be conducted by a qualified biologist for the presence of American badger or desert kit fox dens within 14 days prior to commencement of construction activities. The surveys shall be conducted in areas of suitable habitat for American badger and desert kit fox, which includes desert scrub habitats. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site disturbed. If potential dens are

observed and avoidance is feasible, the following buffer distances shall be established prior to construction activities:

- Desert kit fox or American badger potential den: 50 feet.
- Desert kit fox or American badger active den: 100 feet.
- Desert kit fox or American badger natal den: 500 feet.

If avoidance of the potential dens is not possible, the following measures are required to avoid potential adverse effects to the American badger and desert kit fox:

- If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent American badgers or desert kit foxes from re-using them during construction.
- If the qualified biologist determines that potential dens may be active, an onsite passive relocation program shall be implemented. This program shall consist of excluding American badgers or desert kit foxes from occupied burrows by installation of one-way doors at burrow entrances, monitoring of the burrow for seven days to confirm usage has been discontinued, and excavation and collapse of the burrow to prevent reoccupation. After the qualified biologist determines that American badgers or desert kit foxes have stopped using the dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

During fencing and grading activities daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report documenting the effectiveness and practicality of the protection measures that are in place and making recommendations for modifying the measures to enhance species protection, as needed. The report shall also provide information on the overall activities conducted related to biological resources, including the Environmental Awareness Training and Education Program, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities. These monitoring reports shall be submitted to the Kern County Planning and Community Development Department and relevant resource agencies, as applicable, on a monthly basis along with copies of all survey reports.

MM 4.4-5: Preconstruction Desert Tortoise Surveys. Within 14 days prior to the commencement of any ground-disturbing activities the project operator shall conduct preconstruction surveys for desert tortoise within the project area. The surveys shall be conducted in accordance with the U.S. Fish and Wildlife Service protocol (2010). If no burrows or tortoises are discovered during preconstruction surveys, no further mitigation is necessary. The desert tortoise is a federally and state threatened species and consequently, impacts that would cause “take” of the species would require the issuance of Incidental Take Permits from both the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to comply with the Federal Endangered Species Act and California Endangered Species Act. If burrows or tortoises are identified on the project site during preconstruction surveys, the project operator shall be required to consult with U.S. Fish and Wildlife Service and

California Department of Fish and Wildlife regarding take coverage, and adhere to the following minimum conditions:

- a) Develop a plan for desert tortoise translocation and monitoring prior to project construction. The plan shall provide the framework for implementing the following measures:
 - i. If, upon consultation with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, it is determined by both resource agencies that a permanent tortoise proof exclusion fence is required, a fence shall be installed around all construction and operation areas prior to the initiation of earth disturbing activities, in coordination with a qualified biologist. The fence shall be designed in such a manner to allow other wildlife to access through the permanent security fence and be constructed of 0.5-inch mesh hardware cloth and extend 18 inches above ground and 12 inches below ground. Where burial of the fence is not possible, the lower 12 inches shall be folded outward against the ground and fastened to the ground so as to prevent desert tortoise entry. The fence shall be supported sufficiently to maintain its integrity, be checked at least monthly during construction and operations, and maintained when necessary by the project operator to ensure its integrity. Provisions shall be made for closing off the fence at the point of vehicle entry. Common raven perching deterrents shall be installed as part of the fence construction.
 - ii. An Authorized Biologist shall conduct a preconstruction survey for desert tortoise within the construction site, as well as before and after installation of desert tortoise exclusionary fencing (if required to be installed) and project security fencing. An Authorized Biologist has the appropriate education and experience to accomplish biological monitoring and mitigation tasks and is approved by the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service. Two surveys without finding any desert tortoises or new desert tortoise sign shall occur prior to declaring the site clear of desert tortoises.
 - iii. All burrows that could provide shelter for a desert tortoise shall be hand-excavated prior to ground-disturbing activities.
 - iv. An Authorized Biologist shall remain on site until all vegetation necessary for the construction of the project is cleared and, at a minimum, conduct site and fence inspections on a monthly basis throughout construction in order to ensure project compliance with mitigation measures.
 - v. An Authorized Biologist shall remain on-call throughout fencing and grading activities in the event a desert tortoise wanders onto the project site.
 - vi. Mitigation for permanent loss of occupied desert tortoise habitat shall be mitigated at a 1:1 ratio to reduce potential effects to less-than-significant levels. Mitigation can be achieved through purchase of credit from an existing mitigation bank, such as the Desert Tortoise Natural Area, private purchase of mitigation lands, or onsite preservation, as approved by the resource agencies.

- b). A Raven Management Plan shall be developed for the project site. This plan shall include at a minimum:
 - i. Identification of all common raven nests within the project area during construction.
 - ii. Weekly inspections during construction under all nests in the project area for evidence of desert tortoise predation (e.g., scutes, shells, etc.). If evidence of desert tortoise predation is noted, a report shall be submitted to the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and the Kern County Planning and Community Development Department within five calendar days; and
 - iii. Provisions for the management of trash that could attract common ravens during the construction, operations and maintenance, and decommissioning phases of the proposed project.

MM 4.4-6: Preconstruction Burrowing Owl Surveys. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct preconstruction surveys of the permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows no fewer than 14 days prior to ground-disturbing activities (i.e., vegetation clearance, grading, tilling). The survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation 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. Surveys may be conducted concurrently with desert tortoise preconstruction surveys. As each burrow is investigated, surveying 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 Community Development Department.

If burrowing owls are detected onsite, no ground-disturbing activities shall be permitted within a buffer of no fewer than 100 meters (330 feet) from an active burrow during the breeding season (i.e., February 1 to August 31), unless otherwise authorized by California Department of Fish and Wildlife. During the non-breeding (winter) season (i.e., September 1 to January 31), ground-disturbing work can proceed as long as the work occurs no closer than 50 meters (165 feet) from the burrow. Depending on the level of disturbance, a smaller buffer may be established in consultation with California Department of Fish and Wildlife.

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

If passive relocation is required, a qualified biologist shall prepare a Burrowing Owl Exclusion and Mitigation Plan and a Mitigation Land Management Plan in, accordance with the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation, for review by California Department of Fish and Wildlife prior to passive

relocation activities. The Mitigation Land Management Plan shall include a requirement for the permanent conservation of offsite Burrowing Owl Passive Relocation Compensatory Mitigation. At a minimum, the following recommendations shall be implemented:

- i. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions including decompacting soil and revegetating.
- ii. 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.
- iii. Permanently protect mitigation land through a conservation easement, deed restriction, or similar mechanism deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a California Department of Fish and Wildlife approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits. Land identified to mitigate for passive relocation of burrowing owl may be combined with other offsite mitigation requirements of the proposed project if the compensatory habitat is deemed suitable to support the species.

MM 4.4-7: Nesting Birds and Raptors. If construction is scheduled to commence during the non-nesting season (i.e., September 1 to January 31), no preconstruction surveys or additional measures are required. To avoid impacts to nesting birds in the project area, a qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat within the project site for construction activities that are initiated during the breeding season (i.e., February 1 to August 31). The raptor survey shall focus on potential nest sites (e.g., cliffs, large trees, windrows) within a 0.5-mile buffer around the project site. Surveys shall be conducted no more than 14 days prior to construction activities. Surveys need not be conducted for the entire project site at one time; they may be phased so that surveys occur shortly before a portion of the project site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer (e.g., 200–300 feet for common raptors; 0.5 mile for Swainson’s hawk; 30–50 feet for passerine species) shall be established around active nests and no construction within the buffer allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). For non-listed species, encroachment into the avoidance buffer may occur at the discretion of a qualified biologist; however, for State-listed species, consultation with CDFW shall occur prior to encroachment into the aforementioned buffers.

Implement Mitigation Measure MM 4.9-2.

State Lands Commission

MM 4.4-1: Biological Monitoring. 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 U.S. Fish and Wildlife Service (USFWS) to oversee compliance with protection measures for all listed and other special-status species. The Lead Biologist shall be on the project site during construction of perimeter fencing and grading activities throughout the construction phase. The Lead Biologist shall have the right to halt all activities that are in violation of the special-status species protection measures. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. The Lead Biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted on the project site.

MM 4.4-2: Construction Worker Environmental Awareness Training and Education Program. Prior to the issuance of grading or building permits and for the duration of construction activities, within one week of employment all new construction workers at the project site, laydown area and/or transmission routes shall attend an Environmental Awareness Training and Education Program, developed and presented by the Lead Biologist. Any employee responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Environmental Awareness Training and Education Program.

The program shall include information on the life history of the desert tortoise; burrowing owl; golden eagle, Swainson's hawk, and other raptors; nesting birds; American badger; desert kit fox; as well as other wildlife and plant species that may be encountered during construction activities. The program shall also discuss the legal protection status of each species, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the project operator is implementing to protect the species, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species, and penalties for violation of the Federal Endangered Species Act or California Endangered Species Act.

- i. An acknowledgement form signed by each worker indicating that Environmental Awareness Training and Education Program has been completed would be kept on record;
- ii. A sticker shall be placed on hard hats indicating that the worker has completed the Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker;
- iii. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the Environmental Awareness Training and Education Program and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Community Development Department; and
- iv. The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits.

- v. An Operation and Maintenance-phase version of the WEAP will be maintained within the onsite O&M facility for review as may be necessary during the life of the project.

MM 4.4-3: Avoidance and Protection of Biological Resources. During construction, operations and maintenance, and decommissioning the project operator shall implement the following general avoidance and protective measures:

- a) All proposed impact areas, including solar fields, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided.
- b) The project operator shall limit the areas of disturbance to the extent feasible. Parking areas, new roads, staging, storage, excavation, and disposal site locations 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.
- c) Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best Management Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (SWPPP). All detected erosion shall be remedied within two days of discovery or as described in the SWPPP.
- d) To prevent inadvertent entrapment of desert kit foxes, American badgers, or other wildlife during construction, all excavated, steep-walled holes or trenches more than two feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks. All holes and trenches, whether covered or not, shall be inspected for trapped wildlife at the start and end of each workday. Before such holes or trenches are filled, they shall be thoroughly inspected by the Lead Biologist or approved biological monitor for trapped wildlife. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. If a listed species is found trapped, all work shall cease immediately. If the animal is apparently uninjured, then the Lead Biologist shall directly supervise the provision of escape structures and/or trench modification to allow the trapped animal to escape safely. Work shall not resume in the vicinity of the animal, and it shall be allowed to leave the work area and project site on its own. If the listed animal is injured, then the Lead Biologist or approved biological monitor shall immediately contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife to identify an individual with the appropriate permit or authorization to handle listed species, who shall bring the animal to a pre-identified wildlife rehabilitation or veterinary facility for care.
- e) Burrowing owls, mammals, and nesting birds may use construction pipes, culverts, or similar structures for refuge or nesting. All towers shall be of the monopole variety and all hollow vertical structures, such as solar mount poles, or fencing poles, shall be capped immediately after installation to prevent bird entrapment. Therefore, all construction pipes, culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is

discovered inside a pipe, that section of pipe shall not be moved until the Lead Biologist has been consulted and the animal has either moved from the structure on its own accord (for listed species) or until the animal has been captured and relocated (for non-listed species) by the Lead Biologist. If the animal is a listed species, then work shall immediately halt in the vicinity, and the animal shall be allowed to move from the structure and the work area of its own accord. The Lead Biologist will direct work stoppages near the animal to allow it to freely move out of the pipe and away from the work area. Listed species shall not be handled or captured by anyone without the appropriate permit or authorization.

- f) No vehicle or equipment parked on the project site shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own.
- g) 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.
- h) A speed limit of 15 miles per hour shall be enforced within the limits of the proposed project.
- i) A long-term trash abatement program shall be established for construction, operations and maintenance, 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.
- j) Workers shall be prohibited from bringing pets and firearms to the project area and from feeding wildlife.
- k) Intentional killing or collection of any plant or wildlife species shall be prohibited.
- l) To enable kit foxes and other wildlife (e.g., American badger) to pass through the project site after construction, the security fence, and any permanent interior fencing shall be a wildlife friendly design that meets the goals of allowing wildlife to move freely through the project site during operation, leaving 4- to 7-inch openings or portals in the fence or the fence shall be raised 7 inches above the ground leaving a gap between the fence mesh and the ground. In the latter case the bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence.

MM 4.4-4: Preconstruction Clearance Surveys. The Lead Biologist or approved biological monitor shall monitor all initial ground-disturbance activities and remain on-call throughout construction in the event a special-status species wanders into the project site.

Preconstruction surveys for special-status species shall be conducted within the project boundaries by the Lead Biologist or approved biological monitor within 14 days of the start of any vegetation clearing or grading activities. Methodology for preconstruction surveys shall be appropriate for each potentially occurring species-status species and shall follow U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife preconstruction survey guidelines where appropriate. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days of the portion of the project site being disturbed. The Lead Biologist may use a

variety of approaches (including but not limited to monitoring, track plates, and direct observation) and evidence (including burrow characteristics and presence of sign such as scat and tracks) to determine burrow activity. If any evidence of occupation of the project site special-status species is observed, a buffer shall be established by a qualified biologist that results in sufficient avoidance, as described below.

If desert tortoise are found onsite during subsequent surveys or biological monitoring activities, construction activities shall cease to avoid the potential for take and consultation with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be initiated to obtain the necessary incidental take permit authorizations or provide evidence such a permit is not required.

Preconstruction surveys shall be conducted by a qualified biologist for the presence of American badger or desert kit fox dens within 14 days prior to commencement of construction activities. The surveys shall be conducted in areas of suitable habitat for American badger and desert kit fox, which includes desert scrub habitats. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site disturbed. If potential dens are observed and avoidance is feasible, the following buffer distances shall be established prior to construction activities:

- Desert kit fox or American badger potential den: 50 feet.
- Desert kit fox or American badger active den: 100 feet.
- Desert kit fox or American badger natal den: 500 feet.

If avoidance of the potential dens is not possible, the following measures are required to avoid potential adverse effects to the American badger and desert kit fox:

- If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent American badgers or desert kit foxes from re-using them during construction.
- If the qualified biologist determines that potential dens may be active, an onsite passive relocation program shall be implemented. This program shall consist of excluding American badgers or desert kit foxes from occupied burrows by installation of one-way doors at burrow entrances, monitoring of the burrow for seven days to confirm usage has been discontinued, and excavation and collapse of the burrow to prevent reoccupation. After the qualified biologist determines that American badgers or desert kit foxes have stopped using the dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

During fencing and grading activities daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report documenting the effectiveness and practicality of the protection measures that are in place and making recommendations for modifying the measures to enhance species protection, as needed. The report shall also provide information on the overall activities conducted related to biological resources, including the Environmental Awareness Training and Education Program, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities. These monitoring reports shall be submitted to the Kern County Planning and Community Development Department

and relevant resource agencies, as applicable, on a monthly basis along with copies of all survey reports.

MM 4.4-5: Preconstruction Desert Tortoise Surveys. Within 14 days prior to the commencement of any ground-disturbing activities the project operator shall conduct preconstruction surveys for desert tortoise within the project area. The surveys shall be conducted in accordance with the U.S. Fish and Wildlife Service protocol (2010). If no burrows or tortoises are discovered during preconstruction surveys, no further mitigation is necessary. The desert tortoise is a federally and state threatened species and consequently, impacts that would cause “take” of the species would require the issuance of Incidental Take Permits from both the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to comply with the Federal Endangered Species Act and California Endangered Species Act. If burrows or tortoises are identified on the project site during preconstruction surveys, the project operator shall be required to consult with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife regarding take coverage, and adhere to the following minimum conditions:

- a) Develop a plan for desert tortoise translocation and monitoring prior to project construction. The plan shall provide the framework for implementing the following measures:
 - i. If, upon consultation with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, it is determined by both resource agencies that a permanent tortoise proof exclusion fence is required, a fence shall be installed around all construction and operation areas prior to the initiation of earth disturbing activities, in coordination with a qualified biologist. The fence shall be designed in such a manner to allow other wildlife to access through the permanent security fence and be constructed of 0.5-inch mesh hardware cloth and extend 18 inches above ground and 12 inches below ground. Where burial of the fence is not possible, the lower 12 inches shall be folded outward against the ground and fastened to the ground so as to prevent desert tortoise entry. The fence shall be supported sufficiently to maintain its integrity, be checked at least monthly during construction and operations, and maintained when necessary by the project operator to ensure its integrity. Provisions shall be made for closing off the fence at the point of vehicle entry. Common raven perching deterrents shall be installed as part of the fence construction.
 - ii. An Authorized Biologist shall conduct a preconstruction survey for desert tortoise within the construction site, as well as before and after installation of desert tortoise exclusionary fencing (if required to be installed) and project security fencing. An Authorized Biologist has the appropriate education and experience to accomplish biological monitoring and mitigation tasks and is approved by the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service. Two surveys without finding any desert tortoises or new desert tortoise sign shall occur prior to declaring the site clear of desert tortoises.
 - iii. All burrows that could provide shelter for a desert tortoise shall be hand-excavated prior to ground-disturbing activities.

- iv. An Authorized Biologist shall remain on site until all vegetation necessary for the construction of the project is cleared and, at a minimum, conduct site and fence inspections on a monthly basis throughout construction in order to ensure project compliance with mitigation measures.
 - v. An Authorized Biologist shall remain on-call throughout fencing and grading activities in the event a desert tortoise wanders onto the project site.
 - vi. Mitigation for permanent loss of occupied desert tortoise habitat shall be mitigated at a 1:1 ratio to reduce potential effects to less-than-significant levels. Mitigation can be achieved through purchase of credit from an existing mitigation bank, such as the Desert Tortoise Natural Area, private purchase of mitigation lands, or onsite preservation, as approved by the resource agencies.
- b). A Raven Management Plan shall be developed for the project site. This plan shall include at a minimum:
- i. Identification of all common raven nests within the project area during construction.
 - ii. Weekly inspections during construction under all nests in the project area for evidence of desert tortoise predation (e.g., scutes, shells, etc.). If evidence of desert tortoise predation is noted, a report shall be submitted to the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and the Kern County Planning and Community Development Department within five calendar days; and
 - iii. Provisions for the management of trash that could attract common ravens during the construction, operations and maintenance, and decommissioning phases of the proposed project.

MM 4.4-6: Preconstruction Burrowing Owl Surveys. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct preconstruction surveys of the permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows no fewer than 14 days prior to ground-disturbing activities (i.e., vegetation clearance, grading, tilling). The survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation 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. Surveys may be conducted concurrently with desert tortoise preconstruction surveys. As each burrow is investigated, surveying 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 Community Development Department.

If burrowing owls are detected onsite, no ground-disturbing activities shall be permitted within a buffer of no fewer than 100 meters (330 feet) from an active burrow during the breeding season (i.e., February 1 to August 31), unless otherwise authorized by California Department of Fish and Wildlife. During the non-breeding (winter) season (i.e., September 1 to January 31), ground-disturbing work can proceed as long as the work occurs no closer

than 50 meters (165 feet) from the burrow. Depending on the level of disturbance, a smaller buffer may be established in consultation with California Department of Fish and Wildlife.

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

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

- i. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions including decompacting soil and revegetating.
- ii. 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.
- iii. Permanently protect mitigation land through a conservation easement, deed restriction, or similar mechanism deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a California Department of Fish and Wildlife approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits. Land identified to mitigate for passive relocation of burrowing owl may be combined with other offsite mitigation requirements of the proposed project if the compensatory habitat is deemed suitable to support the species.

MM 4.4-7: Nesting Birds and Raptors. If construction is scheduled to commence during the non-nesting season (i.e., September 1 to January 31), no preconstruction surveys or additional measures are required. To avoid impacts to nesting birds in the project area, a qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat within the project site for construction activities that are initiated during the breeding season (i.e., February 1 to August 31). The raptor survey shall focus on potential nest sites (e.g., cliffs, large trees, windrows) within a 0.5-mile buffer around the project site. Surveys shall be conducted no more than 14 days prior to construction activities. Surveys need not

be conducted for the entire project site at one time; they may be phased so that surveys occur shortly before a portion of the project site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer (e.g., 200–300 feet for common raptors; 0.5 mile for Swainson’s hawk; 30–50 feet for passerine species) shall be established around active nests and no construction within the buffer allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). For non-listed species, encroachment into the avoidance buffer may occur at the discretion of a qualified biologist; however, for State-listed species, consultation with CDFW shall occur prior to encroachment into the aforementioned buffers.

Implement Mitigation Measure MM 4.9-2.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measures MM 4.4-1 through MM 4.4-7 and MM 4.9-2, impacts are considered less than significant.

State Lands Commission

With implementation of Mitigation Measures MM 4.4-1 through MM 4.4-7 and MM 4.9-2, impacts are considered less than significant.

Impact 4.4-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community, or jurisdictional waters, identified in local or regional plans, policies, or regulations or by CDFW or USFWS.

There are no sensitive natural communities or riparian habitat on the project site. Therefore, no impacts to sensitive natural communities or riparian habitat would result from the implementation of the proposed project. As stated in the NOP/IS prepared for the project (see Appendix A), in compliance with National Discharge Elimination System (NPDES) General Construction Permit requirements, the applicant would be required to devise and submit a site-specific Storm Water Pollution Prevention Program (SWPPP) to minimize the discharge of wastewater during construction. The SWPPP includes steps for implementation of best management practices (BMPs) aimed at sediment control and erosion control, and could include soil stabilization, silt fencing, straw bale and temporary catch basins. These BMPs would be implemented during construction of the proposed project as a condition of required permits, therefore minimizing soil erosion in jurisdictional waters to the extent feasible.

A total of 65 features were identified and delineated within or adjacent to the project site. These drainages are potentially subject to RWQCB and CDFW jurisdiction. Because they drain to inland areas of California, the USACE is not expected to assert jurisdiction over the features. Approximately 109.72 acres of CDFW jurisdiction and 7.786 acres of RWQCB jurisdiction would be impacted. 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. Impacts to jurisdictional areas

would be considered significant but mitigatable through implementation of Mitigation Measures MM 4.4-8 and MM 4.4-9

Mitigation Measures

Kern County

MM 4.4-8: Prior to issuance of any grading or building permit, the project proponent/operator shall submit a final Jurisdictional Delineation report. A copy of this report shall also be provided to the Lahontan Regional Water Quality Control Board (RWQCB) and the County. The report shall include information as shown below as a plan if necessary and shall outline compliance to the following:

1. Delineation of all jurisdictional features at the project site. Potential jurisdictional features (ephemeral drainages) within the project boundary identified in the jurisdictional delineation report that are not anticipated to be directly impacted by project related activities shall be avoided. This may be shown in plan form.
2. Any material/spoils generated from project activities shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.
3. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank.
4. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative will be notified.

MM 4.4-9: Prior to ground disturbance activities that would impact aquatic features, the project proponent/operator shall be subject to provisions as identified below:

1. The project proponent/operator shall file a complete Report of Waste Discharge with the RWQCB to obtain Waste Discharge Requirements and shall also consult with California Department of Fish and Wildlife (CDFW) on the need for a streambed alteration agreement. Copies of reports shall be submitted to the County.
2. Based on consultation with RWQCB and CDFW, if permits are required for the project site, appropriate permits shall be obtained prior to disturbance of jurisdictional resources.
3. Compensatory mitigation for impacts to unvegetated streambeds/washes shall be identified prior to disturbance of the features at a minimum 1:1 ratio, as approved by the RWQCB or CDFW either through onsite or offsite mitigation, or purchasing credits from an approved mitigation bank.
4. The project proponent/operator shall comply with the compensatory mitigation required and proof of compliance, along with copies of permits obtained from RWQCB and/or CDFW, which shall be provided to the County.

5. A Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared that outlines the compensatory mitigation in coordination with the RWQCB and CDFW.
 - a. If onsite mitigation is proposed, the HMMP shall identify those portions of the site, such as relocated drainage routes, that contain suitable characteristics (e.g., hydrology) for restoration. Determination of mitigation adequacy shall be based on comparison of the restored habitat with similar, undisturbed habitat in the site vicinity (such as upstream or downstream of the site).
 - b. The HMMP shall include remedial measures in the event that performance criteria are not met.
 - c. If mitigation is implemented off site, mitigation lands shall be comprised of similar or higher quality and preferably located in Kern County. Offsite land shall be preserved through a deed restriction or conservation easement and the HMMP shall identify an approach for funding assurance for the long-term management of the conserved land. Alternatively, the applicant may purchase credits from an approved mitigation bank.
 - d. Copies of any coordination, permits, etc., with RWQCB and CDFW shall be provided to the County.

State Lands Commission

MM 4.4-8: Prior to issuance of any grading or building permit, the project proponent/operator shall submit a final Jurisdictional Delineation report. A copy of this report shall also be provided to the Lahontan Regional Water Quality Control Board (RWQCB) and the County. The report shall include information as shown below as a plan if necessary and shall outline compliance to the following:

1. Delineation of all jurisdictional features at the project site. Potential jurisdictional features (ephemeral drainages) within the project boundary identified in the jurisdictional delineation report that are not anticipated to be directly impacted by project related activities shall be avoided. This may be shown in plan form.
2. Any material/spoils generated from project activities shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.
3. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank.
4. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative will be notified.

MM 4.4-9: Prior to ground disturbance activities that would impact aquatic features, the project proponent/operator shall be subject to provisions as identified below:

1. The project proponent/operator shall file a complete Report of Waste Discharge with the RWQCB to obtain Waste Discharge Requirements and shall also consult with California Department of Fish and Wildlife (CDFW) on the need for a streambed alteration agreement. Copies of reports shall be submitted to the County.
2. Based on consultation with RWQCB and CDFW, if permits are required for the project site, appropriate permits shall be obtained prior to disturbance of jurisdictional resources.
3. Compensatory mitigation for impacts to unvegetated streambeds/washes shall be identified prior to disturbance of the features at a minimum 1:1 ratio, as approved by the RWQCB or CDFW either through onsite or offsite mitigation, or purchasing credits from an approved mitigation bank.
4. The project proponent/operator shall comply with the compensatory mitigation required and proof of compliance, along with copies of permits obtained from RWQCB and/or CDFW, which shall be provided to the County.
5. A Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared that outlines the compensatory mitigation in coordination with the RWQCB and CDFW.
 - a. If onsite mitigation is proposed, the HMMP shall identify those portions of the site, such as relocated drainage routes, that contain suitable characteristics (e.g., hydrology) for restoration. Determination of mitigation adequacy shall be based on comparison of the restored habitat with similar, undisturbed habitat in the site vicinity (such as upstream or downstream of the site).
 - b. The HMMP shall include remedial measures in the event that performance criteria are not met.
 - c. If mitigation is implemented off site, mitigation lands shall be comprised of similar or higher quality and preferably located in Kern County. Offsite land shall be preserved through a deed restriction or conservation easement and the HMMP shall identify an approach for funding assurance for the long-term management of the conserved land. Alternatively, the applicant may purchase credits from an approved mitigation bank.
 - d. Copies of any coordination, permits, etc., with RWQCB and CDFW shall be provided to the County.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measures MM 4.4-8 and MM 4.4-9, impacts on jurisdictional waters would be less than significant.

State Lands Commission

With implementation of Mitigation Measures MM 4.4-8 and MM 4.4-9, impacts on jurisdictional waters would be less than significant.

Impact 4.4-3: The project would have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Isolated waters within the Lahontan Region, including those on the project site, are not considered “waters of the United States” and therefore are not be subject to regulation under the federal Clean Water Act (CWA). In addition, no areas were identified on the project site that exhibit characteristics of wetlands as defined by USACE. Therefore, the proposed project would have no impact on federally protected wetlands.

Mitigation Measures**Kern County**

No mitigation would be required.

State Lands Commission

No mitigation would be required.

Level of Significance**Kern County**

No impact would occur.

State Lands Commission

No impact would occur.

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.

There are no perennial water features on the project site, and therefore no potential corridors for aquatic species. In addition, no wildlife nursery sites have been identified on or in the vicinity of the project site. Similarly, the project site is not located within a known wildlife migratory corridor or a wildlife connectivity area connecting large open space areas in the region or locally, as mapped by the California Essential Habitat Connectivity Project. Although the project would introduce structures to the project site that would physically impede wildlife movement in certain areas and directions, the other renewable energy projects in the area of the project, as well as the areas to the east and south that are mainly native plant communities with scattered unpaved roads and residences, provide for largely unrestricted wildlife movements through natural or semi-natural habitats. Therefore, project features that would restrict wildlife movement represent

a very small fraction of area available for wildlife movement in the surrounding area. In addition, post-construction project fencing, as described in MM 4.4-10, would allow wildlife movement into and out of the project site, maintaining habitat connectivity. Consequently, implementation of the project would not restrict local or regional wildlife movement. Lighting from the project site could potentially affect movement of wildlife around the project site. However, all lighting installed as a part of the proposed project would comply with the Kern County Dark Skies Ordinance and would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. This would reduce the temporary impacts to wildlife movement through the area. Therefore, the proposed project is not expected to adversely impact wildlife movement and impacts would be less than significant.

Mitigation Measures

Kern County

Implementation of Mitigation Measure MM 4.4-10 would be required to reduce impacts on local and regional wildlife movement.

MM 4.4-10: The project site shall be fenced to keep terrestrial wildlife species from entering the project site during construction, but will provide openings post-construction to enable wildlife to move freely through the project site during operation (e.g., create 4- to 7-inch portals or openings in the fence raising the fence 7 inches above the ground and knuckling the bottom of the fence [i.e., wrapping the fencing material back to form a smooth edge] to protect wildlife passing underneath). A desert tortoise exclusion fence is not required unless desert tortoise are found on site during the preconstruction surveys. This fencing shall be constructed of silt fence material, metal flashing, plastic sheeting, or other materials that will prohibit wildlife from climbing the fence or burrowing below the fence. The fencing shall be buried approximately 12 inches below the surface and extend a minimum of 30 inches above grade. Fencing shall be installed prior to issuance of grading or building permits and shall be maintained during all phases of construction and decommissioning. The fencing shall be inspected by a qualified biologist at a regular interval and immediately after all major rainfall events through the duration of construction and decommissioning activities. Any needed repairs to the fence shall be performed on the day of their discovery. Outside temporarily fenced exclusion areas, the project operator shall limit the areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.

State Lands Commission

MM 4.4-10: The project site shall be fenced to keep terrestrial wildlife species from entering the project site during construction, but will provide openings post-construction to enable wildlife to move freely through the project site during operation (e.g., create 4- to 7-inch portals or openings in the fence raising the fence 7 inches above the ground and knuckling the bottom of the fence [i.e., wrapping the fencing material back to form a smooth edge] to protect wildlife passing underneath). A desert tortoise exclusion fence is not required unless desert tortoise are found on site during the preconstruction surveys. This fencing shall be constructed of silt fence material, metal flashing, plastic sheeting, or other materials that

will prohibit wildlife from climbing the fence or burrowing below the fence. The fencing shall be buried approximately 12 inches below the surface and extend a minimum of 30 inches above grade. Fencing shall be installed prior to issuance of grading or building permits and shall be maintained during all phases of construction and decommissioning. The fencing shall be inspected by a qualified biologist at a regular interval and immediately after all major rainfall events through the duration of construction and decommissioning activities. Any needed repairs to the fence shall be performed on the day of their discovery. Outside temporarily fenced exclusion areas, the project operator shall limit the areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measure MM 4.4-10, impacts on local and regional wildlife movement would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.4-10, impacts on local and regional wildlife movement 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.

One local policy (Willow Springs Specific Plan) falls within the project site. This plan requires avoidance of Joshua trees when possible and to create a Preservation or Transportation Plan. Also, many native desert plants, including the Joshua tree are protected under the California Desert Native Plant Act. Both silver cholla and beavertail cactus are also located on the project site and are protected under this Act. Over 5,700 protected cacti and yucca are located on the project site and would be directly impacted by construction activities. Indirect impacts include dust and soil compaction leading to habitat degradation. Therefore, significant impacts could occur to Joshua trees, silver cholla, and beavertail cactus on the project site. However, these impacts would be mitigated to a level of less than significant through the implementation of Mitigation Measure MM 4.4-1 through MM 4.4-10.

Mitigation Measures

Kern County

Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-10 would be required.

State Lands Commission

Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-10 would be required.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measures MM 4.4-1 through MM 4.4-10, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measures MM 4.4-1 through MM 4.4-10, impacts would be less than significant.

Impact 4.4-6: The project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan.

The proposed project would conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

The project site is located within the West Mojave Plan (WMP) Habitat Conservation Plan (HCP) area. The WMP is a proposed comprehensive strategy to conserve and protect more than 100 listed or sensitive wildlife species and their habitats, including the Mohave ground squirrel and desert tortoise, both which have the potential to be present onsite. An HCP is a proposed component of the West Mojave Plan that, if and when finalized, would provide a program for complying with the federal Endangered Species Act (ESA) on private lands with the West Mojave Plan area. Implementation of Mitigation Measures MM 4.4-1, MM 4.4-2, MM 4.4-4, and MM 4.4-5 would ensure that impacts to Mohave ground squirrel and desert tortoise, should they be present, would be mitigated to the extent feasible, consistent with the proposed WMP. Therefore, this project would be consistent with the applicable WMP and no conflict would occur.

Mitigation Measures

Kern County

Implementation of Mitigation Measures MM 4.4-1, MM 4.4-2, MM 4.4-4 and MM 4.4-5 would be required.

State Lands Commission

Implementation of Mitigation Measures MM 4.4-1, MM 4.4-2, MM 4.4-4, and MM 4.4-5 would be required.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measures MM 4.4-1MM 4.4-2, MM 4.44, and MM 4.4-5, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measures MM 4.4-1, MM 4.4-2, MM 4.4-4, and MM 4.4-5, 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, the project-specific impacts of the project would be less than significant with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-10.

As large-scale energy projects and urbanization pressures increase within Kern County, impacts to biological resources within the region are expanding on a cumulative level. As described in Table 3-4, *Cumulative Projects List*, in Chapter 3, *Project Description*, of this EIR, other projects with similar species effects have been completed within the Antelope Valley. In general, bioregions are defined through physical and environmental features, including watershed boundaries and soil and terrain characteristics. Areas to the north and west of the Tehachapi Mountains, and to the south of the San Gabriel Mountains, are within a different bioregion and are separated from the project site by the natural geography that these ranges present. SR 14, at the eastern end of the western Antelope Valley, also acts as a barrier to wildlife movement.

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 have the potential to impact transient wildlife species, including burrowing owls, Swainson's hawk, loggerhead shrike, yellow-headed blackbird, other raptors, migratory birds, and desert kit fox. The project site contains habitat that support insects, rodents, and small birds that provide a prey base for raptors and terrestrial wildlife. 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 not 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 Antelope Valley, the proposed project, when combined with other projects, would have an incremental contribution to cumulative loss of foraging and nesting habitat for special-status species. Implementation of Mitigation Measures would reduce impacts to biological resources to less-than-significant levels on the project-level scale. However, the proposed project, when combined with other related development projects proposed throughout the County, the cumulative impact 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. The common raven population growth is directly attributed to human development and the subsidies it creates that support this adaptable species. 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 incorporated, would not be cumulatively considerable because project impacts to special-status wildlife would be reduced.

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 effect 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 “lake effect.” However, evidence suggests that significant impacts to migratory birds could occur even after mitigation. Further, as take authorization for migratory bird species is not available, any mortality of migratory birds would be considered significant under CEQA. Therefore, the proposed project, in combination with all identified cumulative projects, would result in a cumulatively significant impact on migratory birds that may remain significant and unavoidable after implementation of mitigation.

Mitigation Measures

Kern County

Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-10.

State Lands Commission

Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-10.

Level of Significance after Mitigation

Kern County

Despite implementation of the above mitigation, cumulative impacts would be significant and unavoidable to transient wildlife species, including burrowing owls, Swainson’s hawk, other raptors, desert kit fox, and migratory birds.

State Lands Commission

Despite implementation of the above mitigation, cumulative impacts would be significant and unavoidable to transient wildlife species, including burrowing owls, Swainson’s hawk, other raptors, desert kit fox, and migratory birds.

4.5.1 Introduction

This section provides contextual background information on cultural resources in the project site, including the site's prehistoric, ethnographic, and historical settings of the region. This section also summarizes the results of a cultural resources assessment, including a records search, cultural resources survey of the project site, subsurface testing, and significance evaluation of identified resources.

This section is based on a cultural resources technical report entitled, *Cultural Resources Technical Report Big Beau Solar* (ICF, 2019a), which details the results of a cultural resources records search, field survey, subsurface testing, and resource evaluation for the project, along with Native American consultation conducted by County Staff in accordance with Assembly Bill (AB) 52. This report is provided in Appendix F of this EIR and was conducted in compliance with Section 5024.1 of the California Public Resources Code (PRC) and CEQA to identify archaeological, historic built architectural, and other cultural resources in the project site. Due to the confidential nature of the location of cultural resources, information regarding locations of cultural resources has been removed from the report and is not included in the appendix. The section is also based on a letter report titled *Letter Report: Big Beau Areas of Tribal Interest* (ICF, 2019b), which details the results of consultation with the Tejon Indian Tribe.

Cultural Resource Terminology

For the purposes of CEQA, “cultural resources” generally refer to prehistoric and historical archaeological sites, isolates, and the built environment. Cultural resources can also include areas determined to be important to Native Americans.

Below are definitions of key cultural resources terms used in this section.

Alluvium: a fine-grained fertile soil consisting of mud, silt, and sand deposited by flowing water on flood plains, in river beds, and in estuaries.

Archaeological Site: A site is defined as the place or places where the remnants of a past culture survive in a physical context that allows for the interpretation of these remains. Archaeological remains usually take the form of artifacts (e.g., fragments of tools, vestiges of utilitarian, or nonutilitarian objects), features (e.g., remnants of walls, cooking hearths, or midden deposits), and ecological evidence (e.g., pollen remaining from plants that were in the area when the activities occurred). Prehistoric archaeological sites generally represent the material remains of Native American groups and their activities dating to the period before European contact. In some cases, prehistoric sites may contain evidence of trade contact with Europeans. Ethnohistoric archaeological sites are defined as Native American settlements occupied after the arrival of European settlers in California. Historic period archaeological sites reflect activities during the Historic period.

Artifact: An object that has been made, modified, or used by a human being.

Cultural Resource: Cultural resources are expressions of human culture and history in the physical environment, and may include archaeological sites, buildings, structures, objects, districts, works of art, architecture, and natural features that were important in past human events. They may consist of physical remains, but also may include areas where significant human events occurred, even though evidence of the events no longer remains. Cultural resources also include places that are considered to be of traditional cultural or religious importance to social or cultural groups.

Ethnographic: Relating to the study of human cultures. “Ethnographic resources” represent the heritage resource of a particular ethnic or cultural group, such as Native Americans or African, European, Latino, or Asian immigrants. They may include traditional resource-collecting areas, ceremonial sites, value-imbued landscape features, cemeteries, shrines, or ethnic neighborhoods and structures.

Historic period: The period that begins with the arrival of the first nonnative population and thus varies by area. In 1772, Commander Don Pedro Fages was the first European to enter Kern County, initiating the historic period in the project study area.

Historical Resource: This term is used for the purposes of CEQA and is defined in the *CEQA Guidelines* (Section 15064.5) as: (1) a resource listed in, or determined to be eligible for listing in the California Register of Historical Resources (CRHR); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency’s determination is supported by substantial evidence in light of the whole record.

Holocene: Of, denoting, or formed in the second and most recent epoch of the Quaternary period, which began 10,000 years ago at the end of the Pleistocene.

Isolate: An isolated artifact or small group of artifacts that appear to reflect a single event or activity (isolates were defined as less than three artifacts within 30 meters of each other). Because isolates may lack identifiable context, and may not have the potential to add important information about a region, culture, or person, they are generally not considered under CEQA to be historical or unique archaeological resources (PRC Section 21083.2 and *CEQA Guidelines* Section 15064.5).

Lithic: Of or pertaining to stone. Specifically, in archaeology lithic artifacts are chipped or flaked stone tools, and the stone debris resulting from their manufacture.

Pleistocene (Ice Age): An epoch in the Quaternary period of geologic history lasting from 1.8 million to 10,000 years ago. The Pleistocene was an epoch of multiple glaciation, during which continental glaciers covered nearly one fifth of the earth’s land.

Prehistoric period: The era prior to 1772. The later part of the prehistoric period is also referred to as the protohistoric period in some areas, which marks a transitional period during which native populations began to be influenced by European presence resulting in gradual changes to their lifeways.

Quaternary Age: The most recent of the three periods of the Cenozoic Era in the geologic time scale of the ICS. It follows the Tertiary Period, spanning 2.588 ± 0.005 million years ago to the present. The Quaternary includes two geologic epochs: the Pleistocene and the Holocene Epochs.

Stratigraphy: The natural and cultural layers of soil that make up an archaeological deposit, and the order in which they were deposited relative to other layers.

Tribal Cultural Resource: These are defined in Assembly Bill 52 (AB 52) as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either included or determined to be eligible for inclusion in the CRHR or included in a local register of historical resources (PRC § 21074 (a)(1)).

Unique Archaeological Resource: This term is used for the purposes of CEQA and is defined in PRC Section 21083.2(g) as an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it either contains information needed to answer important scientific research questions and that there is demonstrable public interest in that information; has a special and particular quality such as being the oldest of its type or the best available example of its type; or, is directly associated with a scientifically recognized important prehistoric or historic event or person.

4.5.1 Environmental Setting

The project site generally lies within the Western Mojave Desert, specifically the Antelope Valley. The Antelope Valley occurs within the Mojave Desert geomorphic province (CGS, 2002). The Mojave Desert province is characterized primarily by a broad interior region of isolated mountain ranges separated by expanses of desert plains. The Mojave Desert province is wedged between the Garlock Fault and the San Andreas Fault, which have uplifted the surrounding mountains relatively rapidly, isolating the Mojave Desert from the Pacific Coast and creating the interior drainage basins of the western Mojave Desert, such as the Antelope Valley. The west end of the Antelope Valley is defined by the Tehachapi and San Gabriel Mountains, forming the v-shaped basin of the western Mojave Desert.

The Antelope Valley floor is mantled in thick deposits of Quaternary alluvial and lacustral (lakebed) sediments that have filled the West Antelope, East Antelope and Kramer structural basins. The alluvial sediments are subdivided into two units: older (Pleistocene) Quaternary sediments, and younger (Holocene) alluvial surface deposits. These alluvial sediments are derived from nearby granitic mountains and have been deposited on the valley floor over the course of thousands of years.

The project site is located within a broad alluvial fan consisting of recent alluvium which is underlain at depth by Quartz monzonite granitic rocks (ICF, 2019a). Soils are made up of Cajon loamy sand, DeStazo sandy loam, Hanford coarse sandy loam, Ramona sandy loam, Rosamond loam, Adelanto loamy sand, Hesperia fine sandy loam, and Rough Broken Land. The geology of the study area consists of Holocene-age (11,650 years ago to present) Quaternary alluvium (Diblee, 1963), which was deposited during a period that encompasses prehistoric human occupation of the valley. Aeolian processes generated by the area's frequently high winds also shaped the landscape (ICF, 2019).

Paleoenvironment

During the late Pleistocene age, fossil evidence suggests that the Antelope Valley was inhabited by numerous large mammalian species including sloths, horses, bears, mammoth, bison, camels, as well as prong-horned antelope. Large carnivorous species included saber-toothed cats, wolves, mountain lions, desert coyotes and foxes, while smaller animals included rodents, rabbits, squirrels and a multitude of birds. Studies of pollen

and pack rat middens suggest that desert vegetation began replacing the low-elevation woodlands between 12,000 and 8,000 years ago. Evidence suggests that the plant and animal communities that exist within the Antelope Valley today did not become established until after 4,300 years ago (Price et al., 2008).

Prehistoric Setting

The prehistory of the Mojave Desert is generally described in terms of cultural “complexes.” A complex is a specific archaeological manifestation of a general mode of life, characterized by technology, artifact types, economic systems, trade, burial practices, and other aspects of culture. Complexes are typically associated with particular chronological periods. The prehistory of the Mojave is generally divided into the following time-periods/complexes: Paleo-Indian, Lake Mojave Complex, Pinto Complex, Gypsum Complex, Rose Springs Complex, and Late Prehistoric.

Paleo-Indian (10,000–8000 B.C.)

The Paleo-Indian period is represented in the Mojave primarily by large, fluted Clovis projectile points. This limited evidence suggests that early human occupants of the Mojave probably lived in small, mobile groups in temporary camps in the vicinity of permanent water sources (Sutton et al., 2007). In the vicinity of the project site, a fragment of a fluted Clovis point was recorded on the southern slopes of the Tehachapi Mountains, and recent excavations at Rosamond Lake in the Antelope Valley to the south have documented a terminal Pleistocene/Early Holocene occupation. In addition, the earliest occupation of CA-KER-2821/H, also known as the Bean Springs complex, an extensive archaeological site near Willow Springs, has been radiocarbon dated to 9020-9430 RCYBP (radiocarbon years before present) (Way, 2009).

Lake Mojave Complex (8000–6000 B.C.)

In terms of material culture, the Lake Mojave Complex is typified by stone tools such as Lake Mojave and Silver Lake projectile points, bifaces, steep-edged unifaces, crescents, and some ground stone implements (Sutton et al., 2007). Lake Mojave groups were organized in relatively small, mobile groups and practiced a forager-like subsistence strategy. Some trade with coastal groups was practiced, as evidenced by the presence of shell beads. Lake Mojave sites have been found primarily around Fort Irwin, Lake Mojave, China Lake, Rosamond Lake, and Twentynine Palms.

The Pinto Complex (6000–3000 B.C.)

Archaeological deposits dating from the Pinto Complex suggest that Pinto settlement patterns consisted of seasonal occupation by small, semi-sedentary groups that were dependent upon a combination of big and small-game hunting and collection strategies, which could include the exploitation of stream or water resources. Typically, sites of this period, which are far more geographically widespread than the Lake Mojave complex sites, are found along lakeshores and streams or springs, some of which are now dry. Material culture representative of this period in California prehistory include roughly formed projectile points, “heavy-keeled” scrapers, choppers, and a greater prevalence of flat millingsstones and manos, indicating a more intensive use and processing of plant resources (Warren, 1984; Sutton et al., 2007). At the end of the middle Holocene, around 3000 B.C., environmental conditions became much drier and hotter, and few sites in the Mojave date to the period between 3000 and 2000 B.C., suggesting that the area’s population may have decreased during this period of unfavorable climate (Sutton et al., 2007). A number

of Pinto sites have been recorded in the Antelope Valley, including at least six at Edwards Air Force Base (Price et al., 2008).

Gypsum Complex (c. 2000 B.C.–A.D. 200)

Many archaeological sites of this period are small and surficial, probably of a temporary nature. It is during this time, however, that more archaeological evidence suggestive of inter-tribal trade appears, particularly between the desert and the coast. A site at Lovejoy Springs (CA-LAN-192), which has a prominent Gypsum component, a group inhumation with at least nine individuals was uncovered, including a child buried with more than 3,000 *Olivella* shell beads from the southern Californian coast (Price et al., 2008). The artifact assemblage associated with this period also includes an increased number of millingstones and manos, and it is believed that it was during this period that the pestle and mortar were introduced. These technological developments may point to the increased consumption of seeds and mesquite. Other artifacts associated with the Gypsum Period include Humboldt Concave Base, Gypsum Cave, Elko Eared, and Elko Corner-notched projectile points (Warren, 1984).

Rose Springs Complex (c. A.D. 200–1200)

The general cultural pattern for this period is a continuation of that of the preceding Gypsum Period. Rose Springs archaeological sites are more numerous than sites dating to previous periods and contain more well-developed middens, indicating an increase in population and a more permanent settlement pattern (Sutton et al., 2007). In addition, the archaeological record attests to established trade routes between desert and coastal populations by way of shell beads and steatite, as well as an introduction of Anasazi influence from the eastern Great Plains as evidenced by the appearance of turquoise and pottery. Material culture related to this complex includes obsidian artifacts, Rose Spring and Eastgate projectile points, millingstones, manos, mortars and pestles, slate pendants, and incised stones (Warren, 1984). These projectile points, which are smaller than those in preceding periods, are thought to reflect the adoption of the bow and arrow.

The prevalent use of obsidian is a defining feature of the Rose Springs period. Obsidian from the Coso volcanic field, 70 miles north of Mojave, was imported in near-finished form for use in making lithic tools (Price et al., 2008). The importing of obsidian seems to have dropped sharply at the end of the Rose Springs period, possibly associated with the Medieval Climatic Anomaly, a period of climate change between A.D. 800 to 1350, and the concurrent migration of Numic-speaking populations out of southeastern California and into the Great Basin.

Several periods of drought affected the Mojave in the Rose Springs period, associated with the Medieval Climatic Anomaly, and subsequent Late Prehistoric Period. Drops in the lake levels at Mono Lake attest to dry periods in A.D. 900-1100 and A.D. 1200-1350 (Price et al., 2008).

Several major Rose Springs villages or site complexes exist in the vicinity of the project site. A complex of 15 sites exists near Rosamond Lake, many of which are characterized solely by evidence of lithic reduction. Some of these sites have been dated to the Rose Springs Complex (Gardner, 2009). A number of sites have been identified along the shores of Koehn Lake, including one site that retains evidence of a pit-house (Sutton, 1996).

The Late Prehistoric Period (A.D. 1200–European Contact)

Following periods of drought during the Rose Springs Period, wetter conditions returned between A.D. 1350 and 1600, associated with a climatic event known as the Little Ice Age.

By the Late Prehistoric Period, an extensive network of established trade routes wound their way through the desert, routing goods to populations throughout the Mojave region. Near the project site, trade routes have been postulated as running along the foothills on the southern border of the Antelope Valley and along the Mojave River (Sutton, 1988). The Antelope Valley sat at a convenient geographical location for controlling trade, between the Great Basin and the southern coastal region (Sutton, 1988).

It is also believed that these trade routes encouraged or were the motivating factors for the development of an “increasingly complex socioeconomic and sociopolitical organization” among Protohistoric peoples in southern California. Housepit village sites are prevalent during this period, as are the presence of Desert Side-notched and Cottonwood projectile points, brownware and buffware ceramics, steatite shaft straighteners, painted millingsstones, and, to a lesser degree, coastal shell beads. Beginning around A.D. 1300, however, a decline in trade occurred and well-established village sites were abandoned (Warren, 1984).

Ethnographic Setting

At the time of European contact, numerous groups occupied the area in and surrounding the Antelope Valley. The southeastern portion of the valley, around the Mojave River, was inhabited by the Serrano and Vanyume. The territory of the Tataviam centered on the southwestern extent of the Antelope Valley, the Santa Clara River drainage, and possibly the Sierra Pelonas and the Palmdale area (Sutton, 1988). The Kitanemuk inhabited the southern Tehachapi Mountains and the northern and central portion of the Antelope Valley. To the north, the Kawaiisu occupied the southern Sierra Nevada and the northern Tehachapi Mountains, and may have also inhabited part of the western Mojave Desert (Sutton, 1988). Finally, during the historic period, there is some evidence for the occupation of the Western Mojave by the Chemehuevi.

The Kitanemuk, Kawaiisu, and Serrano are the three groups that have the most well-documented association with the proposed project vicinity and are described in more detail below.

Kawaiisu

The Kawaiisu may be divided into two groups: the Mountain Kawaiisu and the Desert Kawaiisu (Garfinkel and Williams, 2010). The Kawaiisu territory encompassed the southern Sierra Nevada south of the Kern River and into the northern Tehachapi Mountains south of the Tehachapi pass (Sutton, 1988). The Desert Kawaiisu inhabited desert areas from north of Rosamond and Rogers Dry Lake, east to as far as the southern portions of Death Valley. No known ethnographic village sites are located in or near the project site; however, the Kawaiisu were known to travel to Koehn Lake to hunt, trade, and collect salt (Garfinkel and Williams, 2010).

The Kawaiisu economy was based on hunting and gathering, and acorns were a primary food source. Deer, chuckwalla, bighorn sheep, rabbits, and pronghorn were hunted. The main social group was the family. Although some leaders were recognized, no formal chiefs existed, and status was achieved, rather than ascribed. Little is known of Kawaiisu material cultural, although complex basketry appeared to be a defining feature (Sutton, 1988). In terms of language, the Kawaiisu were a Numic-speaking group, in contrast to their Takic-speaking neighbors to the south, the Kitanemuk.

Kitanemuk

The Kitanemuk occupied a territory that extended from the Tehachapi Mountains into the western end of the Antelope Valley. While most of their recorded villages were located in the Tehachapi Mountains, their settlement pattern is poorly understood. Some scholars posit that the Antelope Valley's desert floor was used only on a seasonal basis, while others point to archaeological evidence of permanent occupation of the desert floor during the Late Prehistoric Period (Sutton, 1988). While the Kitanemuk maintained friendly relations with their other neighbors such as the Chumash, historic evidence indicates that their relationship with the Tataviam was generally hostile (Blackburn and Bean, 1978).

Like other Takic-speaking groups, such as the Serrano, Kitanemuk society had a patrilineal organization. Families grouped together into villages, which were headed by a team of "administrative elite" composed of a chief, messengers, and shamans. Kitanemuk subsistence was similar to their neighbors the Tataviam. Primary vegetable food sources included acorns, juniper berries, seeds, and yucca buds. Small game such as antelope and deer supplemented these foods.

Serrano

The Serrano occupied territories that ranged from low or moderately low desert to the mountain regions of the Transverse and Peninsular ranges. Serrano territory was bordered to the west roughly by the Cajon Pass in the San Bernardino Mountains, to the east by Twenty-Nine Palms and to the south by Yucaipa Valley. Their territory extended north of the San Bernardino Mountains into the desert near Victorville, along the Mojave River. According to Kroeber (1925) Serrano territory may have extended at least 20 miles to the west of Mount San Antonio.

The Serrano were organized into clans, with the clan being the largest autonomous political entity. They lived in small villages where extended families lived in circular, dome-shaped structures made of willow frames covered with tule thatching. Each clan had one or more principal villages in addition to numerous smaller villages associated with the principal village (Price et al., 2008).

Villages located at higher elevations were placed near canyons that received substantial precipitation or were adjacent to streams and springs. Villages situated at lower elevations were also located close to springs or in proximity to the termini of alluvial fans where the high water table provided abundant mesquite and shallow wells could be dug.

The Serrano subsistence strategy relied upon hunting and gathering, and occasionally fishing. Villages divided into smaller, mobile gathering groups during certain seasons to gather seasonally available foods. The division of labor was split between women gathering and men hunting and fishing (Bean and Smith, 1978; Warren, 1984). Mountain sheep, deer, rabbits, acorns, grass seeds, piñon nuts, bulbs, yucca roots, cacti fruit, berries, and mesquite were some of the more common resources utilized (Bean and Smith, 1978; Warren, 1984).

Despite early European and Spanish contact in 1771, the Serrano remained relatively autonomous until the period between 1819 and 1834 when most of the western Serrano were removed and placed into missions (Bean and Smith, 1978; Warren, 1984).

Historic Context

Early Exploration

Several major trails crossed the Mojave before and at the time of Spanish contact, and continued to be used not only by the native peoples but also by Euro-American explorers. The Yuma-Needles Trail ran from south of Yuma up the western side of the Colorado River to the Needles area. The Mojave Trail ran from Needles west across the desert to the coast, following the path of the Mojave River for a portion of the route. The Cocomaricopa Trail ran west from Arizona through the Salton Sink (Coachella Valley) and then northwest to meet the Mojave Trail near San Bernardino (Greene, 1983).

The first Europeans known to have visited the Mojave were Don Pedro Fages in 1772 and Juan Bautista de Anza and Father Francisco Garcés in 1774 (Greene, 1983). In 1775, Father Garcés separated from de Anza and crossed the Mojave along the ancient Mojave Trail from Needles west to the San Gabriel Mission, travelling past Soda Lake and resting at modern-day Afton Canyon in 1776 (Earle, 2005).

The Spanish missions that dotted the California coast never spread inland to the Mojave, and the desert remained relatively unexplored and unsettled by Europeans for much of the next century. The Romero-Estudillo Expedition of 1823-24 was an attempt by the Spanish to establish a secure route between the California Coast and Tucson; however, despite two attempts, the expedition never managed to make it as far as the Colorado River (Greene, 1983).

The first recorded American visitors to the Mojave were the party of Jedediah Smith, who crossed the Mojave along the Mojave Trail in 1826. Ewing Young and Kit Carson followed his route in the 1820s and 1830s. Kit Carson, who had participated in Jedediah Smith's 1828 expedition, later was the guide for John C. Fremont in 1844. This expedition was one of the first to document the Antelope Valley in detail.

The Homestead Act and Agriculture

In 1862, the Homestead Act was passed, allowing settlement of public lands and requiring only residence, improvement, and cultivation of the land. Although settlement had been encouraged by the Homestead Act of 1862 and the Desert Land Act of 1877, which permitted disposal of 640-acre tracts of arid public lands at \$1.25 per acre to homesteaders if they proved reclamation of the land by irrigation, the Antelope Valley did not see much growth until after the coming of the railroad. In 1876, the Southern Pacific Railroad line (now the Union Pacific Railroad) that ran south from the San Joaquin Valley was connected to the line from Los Angeles, running through the Fremont and Antelope Valleys. Stops along this line were located at Cantil and Cinco, north of the project area, and Mojave, south of the project area. In 1884, this line joined the Atchison, Topeka, & Santa Fe line that ran east through Needles (Boyd, 2000).

In the 1880s, a number of groups established colonies in the Antelope Valley, including the Quakers, German Lutherans, and Utopian Socialists. However, fluctuating water levels and years of severe drought brought a quick end to many of these colonies. By 1930, over 80 settlements had been established in the region, most along railroad lines. The town of Rosamond was established in 1877 along the Southern Pacific line and named for the daughter of a Southern Pacific executive (Gudde, 1960).

Mining

In the Antelope Valley, mining played a significant role in the development of the area. Kern County was known for its gold production, primarily from its two most prominent mines: the Yellow Aster in Randsburg, and the Golden Queen near Mojave (Shumway et al., 1980). In addition to gold, early mining also concentrated on borax and later potash. In 1866, the Mining Act declared all mineral lands of public domain free and open to exploration and occupancy.

The most notable mining activity in the vicinity of the study area focused on gold. Ezra Hamilton, who owned the Los Angeles-based East Side Pottery Company, originally came to the Antelope Valley to mine clay but, to his good fortune, discovered gold in clay deposits. In Tropico Hill, east of Willow Springs Butte, Hamilton established the Lida Mine in the mid-1890s. Hamilton later sold the mine, and the resulting Tropico Mining Company operated successfully for many years and expanded to include a mill. Two Canadian born brothers, Clifford and Cecil Burton, worked at the mine and mill and eventually acquired the operation (ICF, 2019a).

The Los Angeles Aqueduct

As the local water resources of Los Angeles were no longer able to meet the growing city's needs, the Owens Valley was identified as a potential water source for Los Angeles. Led by William Mulholland, the Los Angeles Department of Water and Power (LADWP) proposed the construction of a water system to transport water from the Owens Valley to Los Angeles. The construction of the Los Angeles Aqueduct, a segment of which is located approximately 135 feet north of the project, began in 1908, and was completed in 1913. Five thousand workers were employed during the construction of the 223 miles of 12-foot diameter steel pipe. Gravity carried water along the aqueduct from the Owens Valley, and eventually Bishop and Mono Lake Basin areas, down to the Los Angeles Basin (LADWP, 2009).

Along the Aqueduct's route, the City of Los Angeles built temporary camps to house workers, managing personnel, and livestock during construction. All told, "57 camps were established along the line of work, most of them in the mountains" (ICF, 2019a). Camp sizes and the duration of their occupation varied along the route, depending on the construction needs specific to the adjacent area.

Existing Cultural Resources

Methods Used to Identify Known Cultural Resources

To evaluate the project's potential effects on significant cultural resources, a cultural resources study for the project was prepared, which included a records search, Native American outreach, a historic map review, a pedestrian survey, and subsurface testing (ICF, 2019a). The methodology and results of ICF's study are summarized below.

SSJVIC Records Search

A cultural resources record search for the project site was conducted by staff at the Southern San Joaquin Valley Information Center (SSJVIC) housed at the California State University, Bakersfield on November 5, 2018. Two supplemental records searches were conducted by the SSJVIC on December 14, 2018, and

January 15, 2019. The record searches included a review of all previous cultural resources studies, recorded archaeological resources, and built-environment resources within 0.5 miles of the project site. Additional sources consulted included the National Register of Historic Places (NRHP), the Historic Property Data File, the listing of California Historical Landmarks, the California Register of Historical Resources (CRHR), the California Inventory of Historic Resources, and the California Points of Historical Interest.

The results of the SSJVIC records searches indicate 35 previous cultural resources studies have been conducted within 0.50 miles of the project site. Of these 35 previous studies, 25 overlap portions of the project site.

The records search results also indicate that 185 cultural resources have been previously recorded within the 0.50-mile records search radius. Of these 185 resources, 31 have been previously recorded within the project site. These 31 resources include the following (see also Table 4.5-1):

Seven prehistoric archaeological sites: P-15-019560 (lithic scatter), -019561 (lithic scatter), -019562 (lithic scatter), -019563 (lithic and tool scatter), -019564 (lithic and groundstone scatter), -019565 (lithic and tool scatter), and -019566 (lithic scatter)

Nine historic-period archaeological sites: P-15-012687 (refuse scatters associated with Los Angeles Aqueduct), -012729 (labor camp associated with Los Angeles Aqueduct), -014906 (tamarisk wind break), -016592 (refuse scatter), -018288 (refuse scatters and unimproved road), -018289 (refuse scatter and unimproved roads), -018624 (unimproved road), -018625 (unimproved road), and -018628 (refuse scatter)

One multicomponent archaeological site: P-15-013833 (prehistoric isolate and historic-period refuse)

Eight prehistoric isolates: P-15-018332, -019587, -019588, -019589, -019590, -019591, -019592, and -019593

Six historic-period archaeological isolates: P-15-018304, -018308, -018313, -018315, -018318, and -018333

Native American Outreach

As part of the information-gathering process for the cultural resources technical report, and separate from the County's required AB 52 consultation, Native American outreach which included a Sacred Lands File (SLF) search conducted by the California Native American Heritage Commission (NAHC) on November 30, 2018 and outreach letters sent on January 17, 2019 to eight tribal groups affiliated within the project site as indicated by the NAHC was conducted. The SLF search conducted by the NAHC stated that no Native American cultural resources are known be located within the project site or its immediate vicinity (ICF, 2019a).

Historic Map Review

A review of historic maps and aerial photographs to identify historic land uses within the project site and its vicinity was conducted (ICF, 2019a). Maps from 1856 and 1881 depict Tehachapi Road extending north from Willow Springs on an alignment east of the project site. This appears to be the main, longstanding road through the southwestern Antelope Valley that was established prior to the 1850s. An 1898 map of Kern County shows that the Southern Pacific Railroad owned large portions of land within and around the project site.

A 1917 USGS topographic map indicates 11 buildings were present within or in close proximity to the project site. The map shows four improved road segments and four unimproved road segments crossed the project site, gen-tie options, and access road alignments in 1915. The map also shows the Los Angeles Aqueduct approximately 135 feet north of the Gen-Tie Option 2 alignment.

A 1935 General Lands Office (GLO) survey map of Township 10 North, Range 14 West, which encompasses the northern half of the project site, provides greater detail on development within that portion of the project site than earlier maps (though no comparable map exists for the southern portion of the project site). The map indicates that a house was present in 1935 in the northern portion of the project site. The road known today as General Petroleum Road, a portion of which was present near the project site by 1915, appears to have been extended to its current length by 1935. The GLO map shows the extended road and an adjacent telephone line leading to a General Petroleum “power station” in the southwest quarter of Section 23. A 1943 USGS topographic map produced from surveys conducted that year identifies the power station as the Willow Springs Pumping Station. In that map General Petroleum Road stretches in two directions from the Willow Springs Pumping Station, northeast to Mojave and southwest to the Antelope Valley Pumping Station near the Kern and Los Angeles county line.

Cultural Resources Surveys and Subsurface Testing

An intensive pedestrian survey of 2,976-acres considered to be the area of potential affect was conducted between January 21 and February 8, 2019, and April 24 through 26, 2019 (ICF, 2019a). The survey area for the proposed gen-tie options included the centerline of the gen-tie options plus a 125-foot corridor (62.5 feet on either side of the line). Similarly, the survey area for the access roads included the road plus a 50-foot corridor (25 feet on either side of the road). The surveys were conducted using transects spaced at 15-meter (approx. 50 feet) intervals and all visible ground surfaces, bedrock outcrops, and rodent burrows, as well as natural or human-made exposures of sediments, were intensively inspected. Identified cultural resources were documented on California Department of Parks and Recreation (DPR) 523 site record forms. Archaeological sites were defined as consisting of three or more artifacts within 30 meters of each other and isolates were defined as less than three artifacts within 30 meters of each other.

Subsurface testing, which included the excavation of Shovel Test Pits (STPs), was conducted at 28 archaeological sites to determine the presence/absence of subsurface components associated with the sites to determine if they have data potential and qualify for listing in the CRHR under Criterion 4 (Data Potential). The STPs measured approximately 30 cm in diameter and were excavated in 10-cm increments to a minimum level of 60 cm; if artifacts were encountered, excavation continued until 20 cm of sterile soil was reached.

Cultural Resources Recorded within the Project Site

As a result of the cultural resources survey, 67 cultural resources were documented or updated. These include seven previously recorded prehistoric archaeological sites, six previously recorded historic-period archaeological sites, one previously recorded multicomponent archaeological site, seven previously recorded prehistoric isolates, six previously recorded historic-period isolates, one newly recorded prehistoric archaeological site, 15 newly recorded historic-period archaeological sites, three newly recorded historic-period built resources (4301 140th Street, 5753 W. 105th Street, and General Petroleum Road), 18 newly recorded prehistoric isolates, and three newly recorded historic-period isolates. One additional resources, P-15-014906 [historic period site: tamarisk wind break], was documented in the records search

as located within the project site. However, during the survey it was found to occur outside the project site. The resource is not considered further.

Table 4.5-1, *Summary of Cultural Resources and Evaluations*, provides a summary of the 67 cultural resources identified in the project site and their CRHR evaluation status. Detailed resource descriptions and evaluations are included in the cultural resources technical report prepared by ICF (2019a), found in Appendix F. Of the 67 resources, two previously recorded archaeological sites (P-15-012729 and P-15-019560) could not be relocated within the project site. Their mapped locations were subject to subsurface testing to determine if the sites existed beneath the ground surface, but no evidence was identified.

Of the 67 documented and updated resources, 28 archaeological sites were subject to subsurface testing to determine the presence/absence of subsurface archaeological deposits and to assess the sites' data potential for CRHR evaluation under Criterion 4 (data potential). No significant subsurface archaeological deposits were found in association with the 28 archaeological sites as a result of the testing. Given this, and given the limited number and diversity of surface artifacts, ICF concluded that the sites be recommended ineligible for listing in the CRHR under Criterion 4, and do not qualify as historical resources or unique archaeological resources pursuant to CEQA. While no significant subsurface archaeological deposits were found during testing, and all resources were recommended as ineligible by ICF (ICF, 2019a), the Lead Agency, through the Native American Tribal Consultation process as required by Assembly Bill 52 has determined that not enough testing has occurred on seven (7) of the sites to definitively reach a conclusion that the sites are less than significant cultural resources and are ineligible for listing or consideration as a tribal cultural resource (ICF, 2019b). The specific sites in question included P-15-019560 through P-15-019566, all prehistoric archaeological sites. As discussed further below, the configuration of the proposed project will result in complete avoidance of any construction or operational activities in these areas. Mitigation Measure 4.5-2 requires the project proponent to prepare a Cultural Resources Treatment Plan showing how these sites will be avoided during construction and operational activities prior to issuance of any grading or building permits. As such, no further testing was required as part of the CEQA evaluation.

The cultural resources survey also identified three historic-period built environment resources including the General Petroleum Road and two residences (4301 140th Street, and 5753 105th Street). These three resources were formally evaluated. Archival research indicates the three resources are not associated with significant events or persons, nor do they represent significant architectural forms. Further, they do not yield important information about historic construction methods, materials, or technologies. As such, these three resources have been recommended ineligible for CRHR listing.

Finally, 35 isolated artifacts were identified as a result of the cultural resources survey, including 14 previously recorded isolates and 21 newly recorded isolates. Isolated artifacts, by their nature, lack archaeological context and therefore generally do not provide sufficient information to be considered significant resources. The 35 isolates do not have the potential to yield information important to the study of prehistory or history. In fact, the information potential of the isolates was exhausted in the process of documenting the finds on DPR 523 forms and mapping their location. The isolates documented as part of the survey are recommended ineligible for listing in the CRHR, nor are they considered a historical or unique archaeological resource under CEQA.

TABLE 4.5-1: SUMMARY OF CULTURAL RESOURCES AND EVALUATIONS

P Number (P-15-)	Permanent Trinomial (CA-KER-)	Temporary Identifier	Resource Description	Subsurface Testing	CRHR Eligibility
012687	7145	—	Historic-period archaeological site: refuse scatter associated with the Los Angeles Aqueduct.	Yes	Recommended not eligible
012729	7187	—	Historic-period archaeological site: camp and features associated with the Los Angeles Aqueduct	Yes	Not located within project site; not evaluated
013833	7747	—	Multicomponent archaeological site: prehistoric isolate and historic period refuse scatter	Tested Previously	Recommended not eligible
016592	9168	—	Historic-period archaeological site: refuse scatter	Yes	Recommended not eligible
018288	9981	—	Historic-period archaeological site: unimproved road and associated refuse scatters	Yes	Recommended not eligible
018289	9982	—	Historic-period archaeological site: unimproved road and associated refuse scatter	Yes	Recommended not eligible
018628	—	—	Historic-period archaeological site: refuse scatter	Yes	Recommended not eligible
019560	10724	—	Prehistoric archaeological site: lithic scatter	Yes	Further testing is required to determine eligibility. Area will be avoided by construction activities.
019561	10725	—	Prehistoric archaeological site: lithic scatter	Yes	Further testing is required to determine eligibility. Area will be avoided by construction activities.
019562	10726	—	Prehistoric archaeological site: lithic scatter	Yes	Further testing is required to determine eligibility. Area will be avoided by construction activities.

TABLE 4.5-1: SUMMARY OF CULTURAL RESOURCES AND EVALUATIONS

P Number (P-15-)	Permanent Trinomial (CA-KER-)	Temporary Identifier	Resource Description	Subsurface Testing	CRHR Eligibility
019563	10727	—	Prehistoric archaeological site: lithic scatter	Yes	Further testing is required to determine eligibility. Area will be avoided by construction activities.
019564	10728	—	Prehistoric archaeological site: lithic scatter	Yes	Further testing is required to determine eligibility. Area will be avoided by construction activities.
019565	10729	—	Prehistoric archaeological site: lithic scatter.	Yes	Further testing is required to determine eligibility. Area will be avoided by construction activities.
019566	10730	—	Prehistoric archaeological site: lithic scatter	Yes	Further testing is required to determine eligibility. Area will be avoided by construction activities.
018304	—	—	Historic-period isolate: milk cans	No	Not eligible
018308	—	—	Historic-period isolate: two glass beverage bottle bases	No	Not eligible
018313	—	—	Historic-period isolate: sanitary cans	No	Not eligible
018315	—	—	Historic-period isolate: one can	No	Not eligible
018318	—	—	Historic-period isolate: one can	No	Not eligible
018332	—	—	Prehistoric isolate: one rhyolite flake	No	Not eligible
018333	—	—	Historic-period isolate: one can	No	Not eligible
019587	—	—	Prehistoric isolate: one cryptocrystalline silicate flake and one rhyolite flake	No	Not eligible
019588	—	—	Prehistoric isolate: one cryptocrystalline silicate flake and one rhyolite flake	No	Not eligible

TABLE 4.5-1: SUMMARY OF CULTURAL RESOURCES AND EVALUATIONS

P Number (P-15-)	Permanent Trinomial (CA-KER-)	Temporary Identifier	Resource Description	Subsurface Testing	CRHR Eligibility
019589	—	—	Prehistoric isolate: one rhyolite flake	No	Not eligible
019590	—	—	Prehistoric isolate: two rhyolite flakes	No	Not eligible
019591	—	—	Prehistoric isolate: one rhyolite flake	No	Not eligible
019592	—	—	Prehistoric isolate: one rhyolite flake	No	Not eligible
019593	—	—	Prehistoric isolate: one rhyolite flake	No	Not eligible
—	—	ICF-BB-1	Historic-period archaeological site: refuse scatter	Yes	Recommended not eligible
—	—	ICF-BB-2	Historic-period archaeological site: refuse scatter	Yes	Recommended not eligible
—	—	ICF-BB-6	Historic period archaeological site: refuse scatter	Yes	Recommended not eligible
—	—	ICF-BB-7	Historic-period archaeological site: refuse scatter	Yes	Recommended not eligible
—	—	ICF-BB-8	Historic-period archaeological site: refuse scatter	Yes	Recommended not eligible
—	—	ICF-BB-9	Historic-period archaeological site: refuse scatter	Yes	Recommended not eligible
—	—	ICF-BB-20	Historic-period archaeological site: refuse scatter	Yes	Recommended not eligible
—	—	ICF-BB-21	Historic-period archaeological site: refuse scatter	Yes	Recommended not eligible
—	—	ICF-BB-22	Historic archaeological site: refuse scatter	Yes	Recommended not eligible
—	—	ICF-BB-24	Prehistoric archaeological site: lithic scatter	Yes	Recommended not eligible
—	—	ICF-BB-26	Historic-period archaeological site: refuse deposit	Yes	Recommended not eligible

TABLE 4.5-1: SUMMARY OF CULTURAL RESOURCES AND EVALUATIONS

P Number (P-15-)	Permanent Trinomial (CA-KER-)	Temporary Identifier	Resource Description	Subsurface Testing	CRHR Eligibility
—	—	ICF-BB-28	Historic-period archaeological site: refuse deposit	Yes	Recommended not eligible
—	—	ICF-BB-30	Historic-period archaeological site: refuse deposit	Yes	Recommended not eligible
—	—	ICF-BB-34	Historic-period archaeological site: refuse deposit	Yes	Recommended not eligible
—	—	ICF-BB-40	Historic-period archaeological site: refuse scatter	Yes	Recommended not eligible
—	—	ICF-BB-10	Prehistoric isolate: rhyolite projectile point	No	Not eligible
—	—	ICF-BB-11	Prehistoric isolate: limestone flake	No	Not eligible
—	—	ICF-BB-12	Historic-period isolate: mine shaft with milled lumber	No	Not eligible
—	—	ICF-BB-13	Prehistoric isolate: granite metate	No	Not eligible
—	—	ICF-BB-16	Prehistoric isolate: one rhyolite flake	No	Not eligible
—	—	ICF-BB-17	Prehistoric isolate: one obsidian flake	No	Not eligible
—	—	ICF-BB-18	Prehistoric isolate: one rhyolite flake	No	Not eligible
—	—	ICF-BB-19	Prehistoric isolate: one chalcedony flake	No	Not eligible
—	—	ICF-BB-23	Prehistoric isolate: one obsidian flake	No	Not eligible
—	—	ICF-BB-25	Prehistoric isolate: one cryptocrystalline flake	No	Not eligible
—	—	ICF-BB-27	Prehistoric isolate: one rhyolite flake	No	Not eligible
—	—	ICF-BB-29	Prehistoric isolate: one rhyolite flake	No	Not eligible
—	—	ICF-BB-31	Prehistoric isolate: one rhyolite flake	No	Not eligible
—	—	ICF-BB-32	Prehistoric isolate: one rhyolite flake	No	Not eligible

TABLE 4.5-1: SUMMARY OF CULTURAL RESOURCES AND EVALUATIONS

P Number (P-15-)	Permanent Trinomial (CA-KER-)	Temporary Identifier	Resource Description	Subsurface Testing	CRHR Eligibility
—	—	ICF-BB-33	Historic-period isolate: USGS marker	No	Not eligible
—	—	ICF-BB-35	Prehistoric isolate: one rhyolite flake	No	Not eligible
—	—	ICF-BB-36	Prehistoric isolate: one rhyolite flake	No	Not eligible
—	—	ICF-BB-37	Prehistoric isolate: two cryptocrystalline flakes	No	Not eligible
—	—	ICF-BB-38	Prehistoric isolate: one cryptocrystalline flake	No	Not eligible
—	—	ICF-BB-39	Historic-period isolate: USGS marker	No	Not eligible
—	—	ICF-BB-41	Historic-period isolate: property markers	No	Not eligible
—	—	4301 140th Street	Historic-period built resource: single-family residence	No	Not eligible
—	—	5753 W. 105th Street	Historic-period built resource: single-family residence	No	Not eligible
—	—	General Petroleum Road	Historic-period built resource: segment General Petroleum Road.	No	Not eligible

Potential for Unknown Buried Cultural Resources

The Antelope Valley floor is covered in thick deposits of Quaternary alluvial sediments. Dibblee (1963) subdivides the alluvium into two units: the older (Pleistocene) Quaternary sediments, and younger (Holocene) alluvial surface deposits. These alluvial sediments are derived from nearby granitic mountains and have been deposited on the valley floor over the course of thousands of years. The younger Quaternary valley alluvial deposits, composed of weathered soil material and poorly sorted clay, silt, and sand, may be up to several hundred feet thick in valley areas, and thinner on slopes at the valley margins. The thickness of the younger alluvial deposits within the project site is approximately 12 feet (Paleo Solutions, 2019).

In many places, the interface between older land surfaces and newer alluvial depositions is marked by a well-developed buried soil profile, or a paleosol. Paleosols preserve the composition and character of the earth's surface prior to subsequent sediment deposition; thus, paleosols have the potential to preserve archaeological resources if the area had been occupied or settled by humans. Holocene alluvium and Pleistocene-age surfaces buried by Holocene alluvium are the most likely landforms to contain paleosols. However, because human populations have grown since the arrival of the area's first inhabitants, younger

paleosols (late Holocene) are more likely to yield archaeological resources than older paleosols (early Holocene or Pleistocene).

Given that these portions of the Antelope Valley within the Project site have been covered with Holocene alluvial deposits, which have been deposited over the course of known human occupation in the region, there is a possibility that alluvium has buried prehistoric archaeological sites that once existed on the surface. As such, there is a possibility that buried archaeological deposits may be encountered during project-related excavation.

4.5.2 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

California Register of Historical Resources (CRHR)

Created in 1992 and implemented in 1998, the 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 California Code of Regulations [CCR], Section 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. Cultural sites that have been affected by ground-disturbing activities, such as farming, often lack integrity because they have been directly damaged or moved from their original location, among other changes.

Typically, an archaeological site in California is recommended eligible for listing in the 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 (PHI)

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 historical 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:

4. It is the first, last, only, or most significant of its type within the local geographic region (city or county);
5. It is associated with an individual or group having a profound influence on the history of the local area; or
6. It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State and is codified at PRC Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or archaeological resources.

Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. The CEQA *Guidelines* (Title 14 CCR Section 15064.5) recognize that an historical resource includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 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* Sections 15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the historical resource criteria contained in the CEQA *Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is a unique archaeological resource. As defined in Section 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 Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.2(b)). If preservation in place is not feasible, mitigation measures shall be required.

The CEQA *Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (CEQA *Guidelines* Section 15064.5(c)(4)).

Native American Heritage Commission

PRC Section 5097.91 established the Native American Heritage Commission (NAHC), the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. PRC Section 5097.98 specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

California Public Records Act

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 for “records that relate to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the NAHC, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency”.

California Health and Safety Code, Sections 7050 and 7052

Health and Safety Code, Section 7050.5, declares that, in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbance must cease and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

California Penal Code, Section 622.5

California Penal Code, Section 622.5, provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands but specifically excludes the landowner.

Public Resources Code, Section 5097.5

PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for cultural resources applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1. Land Use, Open Space and Conservation Element

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

Policy

Policy 25: The County will promote the preservation of cultural and historic resources that provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measures

Measure K: Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.

Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.

Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Measure N: The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.

Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.

Willow Springs Specific Plan

The southern portion of the project is subject to the provisions of the Willow Springs Specific Plan (WSSP) in 2008, which contains goals, policies, and standards that are compatible with those in the Kern County General Plan, but are unique to the specific needs of the Willow Springs Area. The policies, goals, and implementation measures for cultural resources in Kern County's Willow Springs Specific Plan are provided below.

Goal

Goal 1 To preserve cultural resources contained on sensitive sites located within the Willow Springs Specific Plan area.

Policies

- Policy 1: Archaeological investigations shall be required of specific properties proposed for development. These sites are identified in the Environmental Impact Report under Cultural Resources - Literature and Records Search, page 77, and are listed as: CA-KER-2819, 2820, 2821; CA-KER-522, 1969, 2592,2593, 2599, 2595 and 2714; CA-KER-129, 273, 298, 302, 303.
- Policy 2: Recorded archaeological sites shall be subjected to individual studies prior to development.

Mitigation/Implementation Measures

- Measure 1: Prior to issuance of grading permits, archaeological investigations shall be required of specific properties proposed for development. This approach will eventually produce a complete record of all of the cultural resources present within the study area and should constitute a major contribution to the reconstruction of the Kitanemuk settlement pattern.
- Measure 2: Prior to grading permit issuance, a recorded archaeological site found on a specific property proposed for development shall be subjected to individual study prepared at the expense of the developer by a qualified historian. Surface collection, text excavation, and laboratory analysis constitute procedures necessary to properly assess both the significance and the research potential of each individual resource.
- Measure 3: Larger "village" sites, such as CA-KER-129, cemeteries, and other sites of religious significance, maybe found within the study area and shall require more intensive investigation and more complete preservation.

Mitigation/Implementation Measures 1, 2, and 3 require archaeological investigations for site-specific development projects throughout the plan area. Individual studies shall be required for recorded archaeological sites and intensive investigation of larger "village" sites such as CA-KER-129, cemeteries, and other sites of religious significance. Verification of these investigations and studies shall be provided for by the developer and submitted to Kern County Department of Planning and Development Services prior to the issuance of grading permits.

4.5.3 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to cultural resources have been evaluated using a variety of sources. To evaluate the project's potential effects on significant archaeological and historic built environment resources, ICF conducted a cultural resources study of the project site, which included a records search, a cultural resources survey, subsurface testing, and evaluation of resources for inclusion in the CRHR (ICF, 2019a). This is supplemented by a letter report documenting Native American consultation with the Tejon Indian Tribe (ICF, 2019b). Based on these data, 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 cultural resources.

A project would have a significant adverse effect on cultural resources if it would:

- a. Cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.4;
- b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines Section 15064.4;
- c. Disturb any human remains, including those interred outside of dedicated cemeteries.

All of the above impact thresholds are addressed in the “Project Impacts” section below. Impacts to tribal cultural resources have been addressed in Section 4.16, *Tribal Cultural Resources*, of this EIR.

Project Impacts

Impact 4.5-1: The project would cause a substantial adverse change in the significance of a historical resource, as defined in CEQA *Guidelines* Section 15064.5.

As a result of the cultural resources survey conducted for the project, 67 cultural resources were identified. These resources include 28 archaeological sites (eight prehistoric sites and 20 historic-period sites), three historic built environment resources (4301 140th Street, 5753 W. 105th Street, and General Petroleum Road), and 35 isolates. The 28 archaeological sites were subject to subsurface testing to determine if any of the sites contain subsurface deposits that may have potential to address regional research questions as outlined in ICF’s cultural resources technical report (ICF, 2019a). All but seven of the sites were found to not contain a significant subsurface component and, therefore, the sites were determined to have no data potential. However, in regards to the remaining seven sites, all prehistoric archaeological sites, the Lead Agency, through the Native American Tribal Consultation process as required by Assembly Bill 52, has determined that not enough testing has occurred to definitively reach a conclusion that the sites are less than significant for cultural resources and are ineligible for listing or consideration as a tribal cultural resource (ICF, 2019b). The specific sites in question include P-15-019560 through P-15-019566. However, the configuration of the proposed project would result in complete avoidance of any construction or operational activities in these areas. Further, Mitigation Measure 4.5-2 requires the project proponent to prepare a Cultural Resources Treatment Plan showing how these sites would be avoided during construction and operational activities prior to issuance of any grading or building permits.

The three identified built environment resources were also evaluated for inclusion in the CRHR under Criteria 1-4 and were recommended ineligible. Therefore, they do not qualify as historical resources.

The 35 identified isolates lack archaeological context and therefore generally do not provide sufficient information to be considered significant resources. As such, the isolates documented as part of the survey are recommended not eligible for listing in the CRHR, and do not qualify as historical resources pursuant to CEQA.

In addition to known resources, the project has the potential for buried resources that could be discovered during ground-disturbing activities. The project site is covered by Holocene alluvial deposits, and this alluvium has been deposited over the course of known human occupation in the region, possibly burying prehistoric archaeological sites that once existed on the surface. Therefore, there is a possibility that buried archaeological deposits may be encountered during project-related excavation. Should buried archaeological deposits be uncovered during project implementation, and should such resources be considered historical resources under CEQA, they could be subject to significant impacts. To reduce potential impacts to less than significant, Mitigation Measures MM 4.5-1 through MM 4.5-4 require cultural resources sensitivity training for construction workers, archaeological and Native American monitoring during construction, and appropriate treatment of unearthed archaeological resources during construction.

Mitigation Measures

Kern County

MM 4.5-1: The project proponent/operator shall retain a Lead Archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior, 2011), to carry out all mitigation measures related to archaeological and unique historical resources. The contact information for this Lead Archaeologist shall be provided to the Kern County Planning and Natural Resources Department prior to the commencement of any construction activities on-site. Further, the Lead Archaeologist shall be responsible for ensuring the following employee training provisions are implemented during implementation of the project:

- a) Prior to commencement of any ground disturbing activities, the Lead Archaeologist in consultation with the Native American monitor(s) shall conduct a Cultural Resources Sensitivity Training for all personnel working on the proposed project. A Cultural Resources Sensitivity Training Guide approved by the Lead Archaeologist shall be provided to all personnel. A copy of the Cultural Resources Sensitivity Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form. A copy of the proposed training materials shall be provided to the Planning and Natural Resources Department prior to the issuance of any grading or building permit.

The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the Lead Archaeologist monitor(s) for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources.

- b) A copy of the Cultural Resources Sensitivity Training Guide/Materials shall be kept on-site and available for all personnel to review and be familiar with as necessary. It is the responsibility of the Lead Archaeologist to ensure all employees receive appropriate training before the work on-site.

MM 4.5-2 Prior to this issuance of any grading or building permit, the project operator shall submit to the Kern County Planning and Natural Resources Department a Cultural Resources Treatment Plan. The plan shall:

- 1) Provide an overview of best management practices to be utilized during construction activities to ensure protection of cultural resources.
- 2) Outline the process for evaluation of any unanticipated cultural discoveries during project construction activities.
- 3) Include provisions showing how sites P-15-019560 through p-15-019566 will be avoided during construction and operational activities.

MM 4.5-3: During implementation of the project, the services of Native American Tribal Monitors, working under the supervision of the Lead Archaeologist as identified through consultation with appropriate Native American tribes, shall be retained by the project proponent/operator to monitor, on a full-time basis, ground-disturbing activities associated with project-related construction activities, as follows:

- a) All initial excavation and initial ground-disturbing activities within the project site, shall be monitored by archaeological and Native American monitors.
- b) The Lead Archaeologist, archaeological monitors, and Native American monitors shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. 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 Lead Archaeologist, archaeological monitor, and Native American monitor.
- c) The archaeological monitor(s) shall keep daily logs and the Lead Archaeologist shall submit monthly written updates to the Kern County Planning and Natural Resources Department. After monitoring has been completed, the Lead Archaeologist shall prepare a monitoring report detailing the results of monitoring, which shall be submitted to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.

MM 4.5-4: During implementation of the project, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as the Native American monitor. The Lead Archaeologist in consultation with the Native American monitor, 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 Lead 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. Diagnostic archaeological materials with research potential recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with a designated Native American monitor, shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.

State Lands Commission

MM 4.5-1: The project proponent/operator shall retain a Lead Archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior, 2011), to carry out all mitigation measures related to archaeological and unique historical resources. The contact information for this Lead Archaeologist shall be provided to the Kern County Planning and Natural Resources Department prior to the commencement of any construction activities on-site. Further, the Lead Archaeologist shall be responsible for ensuring the following employee training provisions are implemented during implementation of the project:

- a) Prior to commencement of any ground disturbing activities, the Lead Archaeologist in consultation with the Native American monitor(s) shall conduct a Cultural Resources Sensitivity Training for all personnel working on the proposed project. A Cultural Resources Sensitivity Training Guide approved by the Lead Archaeologist shall be provided to all personnel. A copy of the Cultural Resources Sensitivity Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form. A copy of the proposed training materials shall be provided to the Planning and Natural Resources Department prior to the issuance of any grading or building permit.

The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the Lead Archaeologist monitor(s) for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources.

- b) A copy of the Cultural Resources Sensitivity Training Guide/Materials shall be kept on-site and available for all personnel to review and be familiar with as necessary. It is the responsibility of the Lead Archaeologist to ensure all employees receive appropriate training before the work on-site.

MM 4.5-2 Prior to this issuance of any grading or building permit, the project operator shall submit to the Kern County Planning and Natural Resources Department a Cultural Resources Treatment Plan. The plan shall:

- 1) Provide an overview of best management practices to be utilized during construction activities to ensure protection of cultural resources.
- 2) Outline the process for evaluation of any unanticipated cultural discoveries during project construction activities.
- 3) Include provisions showing how sites P-15-019560 through p-15-019566 will be avoided during construction and operational activities.

MM 4.5-3: During implementation of the project, the services of Native American Tribal Monitors, working under the supervision of the Lead Archaeologist as identified through consultation with appropriate Native American tribes, shall be retained by the project proponent/operator to monitor, on a full-time basis, ground-disturbing activities associated with project-related construction activities, as follows:

- a) All initial excavation and initial ground-disturbing activities within the project site, shall be monitored by archaeological and Native American monitors.
- b) The Lead Archaeologist, archaeological monitors, and Native American monitors shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. 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 Lead Archaeologist, archaeological monitor, and Native American monitor.
- c) The archaeological monitor(s) shall keep daily logs and the Lead Archaeologist shall submit monthly written updates to the Kern County Planning and Natural Resources Department. After monitoring has been completed, the Lead Archaeologist shall prepare a monitoring report detailing the results of monitoring, which shall be submitted to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.

MM 4.5-4: During implementation of the project, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as the Native American monitor. The Lead Archaeologist in consultation with the Native American monitor, 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 Lead 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. Diagnostic archaeological materials with research potential recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with a designated Native American monitor, shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.

Level of Significance

Kern County

With implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-4, impacts would be less than significant.

State Lands Commission

With implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-4, 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 pursuant to CEQA *Guidelines* Section 15064.5.

As discussed above under Impact 4.5-1, 28 archaeological sites and 35 isolates were identified within the project site. The isolates lack archaeological context and, therefore, generally do not provide sufficient information to be considered significant resources. Of the 28 archaeological sites, it was determined that all but seven lack significant subsurface deposits, and therefore lack the data to qualify as unique archaeological resources. For the remaining seven sites, the Lead Agency, through the Native American Tribal Consultation process as required by Assembly Bill 52 has determined that not enough testing has occurred to definitively reach a conclusion that the sites are less than significant cultural resources and are ineligible for listing or consideration as a tribal cultural resource (ICF, 2019b). The specific sites in question included P-15-019560 through P-15-019566, all prehistoric archaeological sites. However, the configuration of the proposed project would result in complete avoidance of any construction or operational activities in these areas. Mitigation Measure MM 4.5-2 requires the project proponent to prepare a Cultural Resources Treatment Plan showing how these sites would be avoided during construction and operational activities prior to issuance of any grading or building permits.

As discussed previously under Impact 4.5-1, there also is a potential for the project to impact previously unknown, buried archaeological deposits. The project site is covered by Holocene-age alluvium. Given that the Holocene alluvium was deposited during the course of human occupation of the region, there is a possibility that the sediments may have buried archaeological sites. As such, buried archaeological sites may be encountered during project-related excavation. In the event that unknown archaeological resources are discovered during project construction, significant impacts could occur. However, with implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4, which require cultural resources sensitivity training for construction workers, archaeological and Native American monitoring during construction, and appropriate treatment of unearthened archaeological resources during construction, potential impacts would be reduced to less than significant.

Mitigation Measures

Kern County

Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 would be required.

State Lands Commission

Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 would be required.

Level of Significance after Mitigation

Kern County

With implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-4, impacts would be less than significant.

State Lands Commission

With implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-4, impacts would be less than significant.

Impact 4.5-3: The project would disturb any human remains, including those interred outside of formal cemeteries.

There is no indication, either from the archival research results or the archaeological survey, that any particular location within 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 4.5-4 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 4.5-5: If human remains are uncovered during project construction, the project contractor shall immediately halt work within 100 ft. of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the California Environmental Quality Act Guidelines. If the County Coroner determines that the remains are Native American, the coroner shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per Public Resources Code 5097.98. Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (7100 et. seq.) directing identification of the next-of-kin will apply.

State Lands Commission

MM 4.5-5: If human remains are uncovered during project construction, the project contractor shall immediately halt work within 100 ft. of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the California Environmental Quality Act Guidelines. If the County Coroner determines that the remains are Native American, the coroner shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per Public Resources Code 5097.98. Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (7100 et. seq.) directing identification of the next-of-kin will apply.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measure MM 4.5-5, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.5-5, 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 amendments 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 western portion of the Antelope Valley. The western Antelope Valley includes a portion of the southeast corner of Kern County and a portion of northern Los Angeles County. This geographic scope of analysis is appropriate because the prehistoric and historical resources within this area are expected to be similar to those that occur on the project site because of their proximity, and because the similar environments, landforms, and hydrology would result in similar land use—and thus, site types. Similar geology within this vicinity would likely yield fossils of similar sensitivity and quantity. This is a large enough area to encompass any effects of the project on cultural resources that may combine with similar effects caused by other past, current, and reasonably foreseeable future projects, and provides a reasonable context wherein cumulative actions could affect cultural resources. Multiple projects, including solar energy production facilities, are proposed throughout the western Antelope Valley. Cumulative impacts to cultural resources in the western Antelope Valley could occur if other related projects, in conjunction with the proposed project, had or would have impacts on cultural resources that, when considered together, would be significant.

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, no significant historic or prehistoric resources were identified within the project site, and mitigation measures are included in this EIR to reduce potentially significant impacts to unknown archaeological resources that could be encountered during construction of the proposed project. Implementation of Mitigation Measure MM 4.5-1 requires cultural resources sensitivity training for construction workers and Mitigation Measure MM 4.5-3 requires archaeological and Native American monitoring to ensure that any currently unknown archeological resources that qualify as historical resources or unique archaeological resources are identified during construction. Mitigation Measure MM 4.5-4 requires appropriate treatment of uncovered archaeological resources, including those that qualify as historical resources. Implementation of these mitigation measures would reduce potential impacts to historical and unique archaeological resources to a less than significant level, and ensure that project impacts to cultural resources are not cumulatively considerable. Although project construction has the potential to disturb human remains, as do other projects in the cumulative study area, the implementation of Mitigation Measure MM 4.5-5 would ensure that appropriate protocols are followed with regard to identifying and handling remains, and ensure that cumulative impacts are not significant.

With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-5 as described above, the project would not result in significant impacts to cultural resources. Given this minimal impact, as well as similar mitigation requirements for other projects in the western Antelope Valley, cumulative impacts to cultural resources would be less than significant.

Mitigation Measures**Kern County**

Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-5 would be required.

State Lands Commission

Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-5 would be required.

Level of Significance after Mitigation**Kern County**

With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-5, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-5, impacts would be less than significant.

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4.6.1 Introduction

This energy section of the EIR analyzes the energy implications of the project, focusing on the following three energy resources: electricity, natural gas, and transportation-related energy (petroleum-based fuels). This section includes a summary of the project's anticipated energy needs (detailed energy calculations are based on air quality outputs provided in the Air Quality Report provided in Appendix D of this EIR), and conservation measures. Information in this section is primarily based on the *BigBeau Solar: Energy Memo* (Energy Technical Memorandum) prepared by ICF, provided in Appendix G of this EIR. In addition, the information found herein, as well as other aspects of the project's environmental-related energy impacts, are discussed in greater detail elsewhere in this Draft EIR, including in Chapter 3, *Project Description*, Section 4.3, *Air Quality*, and Section 4.8, *Greenhouse Gas Emissions*, of this EIR.

This section provides the content and analysis required by Public Resources Code, Section 21100(b)(3), and described in Appendix F to the CEQA *Guidelines* (AEP 2018). Public Resources Code Section 21100(b) and Section 15126.4 of the CEQA *Guidelines* require that an EIR identify mitigation measures to minimize a project's significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy. Appendix F states that the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F further states that a project's energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the Project Description, Environmental Setting and Impact Analysis portions of technical sections, as well as through mitigation measures and alternatives.

In late 2018, the California Natural Resources Agency finalized updates to the 2018 CEQA *Guidelines* (California Natural Resources Agency, 2018). Appendix G was amended to now include the analysis of energy. Previously included in Appendix F, the Appendix G Checklist now provides energy criteria for the analysis of wasteful energy consumption and conflicts with state or local energy efficiency plans (California Natural Resources Agency, 2018).

4.6.2 Environmental Setting

Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components for distribution and use. The electricity generated is distributed through a network of transmission and distribution lines, commonly called a power grid.

Energy capacity, or electrical power, is generally measured in watts (W), while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 W, the energy required to keep the bulb on for 1 hour would be 100 Wh. If ten 100 W bulbs were on for 1 hour, the energy required would

be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is one million watts, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is one billion watt-hours.

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 the project 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 2018***, shows the electric power mix that was delivered to retail customers for SCE compared to the statewide power mix for 2018, the most recent year in which data is available.

TABLE 4.6-1: ELECTRIC POWER MIX DELIVERED TO RETAIL CUSTOMERS IN 2018

Energy Resource	2018 SCE	2018 CA Power Mix (for comparison) ^a
Eligible Renewable	36%	31%
Biomass & bio-waste ^b	1%	2%
Geothermal	8%	5%
Eligible hydroelectric	1%	2%
Solar	13%	11%
Wind	13%	11%
Coal	0%	3%
Large Hydroelectric	4%	11%
Natural Gas	17%	35%
Nuclear	6%	9%
Other	0%	<1%
Unspecified sources of power^c	37%	11%
Total	100%	100%

^a 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.

^b The Eligible Renewables category is further delineated into the specific sources: biomass & waste, geothermal, small hydroelectric, solar, and wind.

^c "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.

SOURCE: SCE 2019.

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs and

delivered through high-pressure transmission pipelines. Natural gas provides almost one-third of the state's total energy requirements. Natural gas is measured in terms of cubic feet (cf). Southern California Gas Company is the natural gas provider in Kern County; however, there is not a known natural gas service for the project site.

Transportation

According to the California Energy Commission (CEC), transportation accounted for nearly 37 percent of California's total energy consumption in 2014 (CEC 2017). In 2018, California consumed 15.6 billion gallons of gasoline and 3.7 billion gallons of diesel fuel (California Department of Tax and Fee Administration 2019a and 2019b). Petroleum-based fuels currently account for more than 90 percent of California's transportation fuel use (CEC 2016a). 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 2016a). 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 2016b). According to CARB's EMFAC2017 Web Database, Kern County 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 U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and United States Environmental Protection Agency (USEPA) jointly administer the CAFE standards (NHTSA 2019). The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.

Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by USEPA and NHTSA. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018, and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. USEPA and NHTSA have also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type (USEPA 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 U.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 also included a new energy grant program for use by local governments in implemented 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, an update on trends in California’s sources of crude oil, an update on California’s nuclear plants, and other energy issues.

California’s Renewables Portfolio Standard

First established in 2002 under SB 1078, California’s Renewables Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030 (CPUC 2019).

In 2018, SB 100 further increased California’s RPS and required retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by the end of 2024, 52 percent by the end of 2027, and 60 percent by the end of 2030; and that the California Air Resources Board (CARB) should plan for 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. The CPUC’s responsibilities include: (1) determining annual procurement targets and enforcing compliance; (2) reviewing and approving each investor-owned utility’s renewable energy procurement plan; (3) reviewing contracts for RPS-eligible energy; and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy. Refer to Section 4.8, *Greenhouse Gas Emissions*, of this EIR for additional details regarding this regulation.

California Assembly Bill 1493 (AB 1493, Pavley)

In response to the transportation sector accounting for more than half of California's CO₂ emissions, Assembly Bill (AB) 1493 (commonly referred to as CARB's Pavley regulations), enacted in 2002, requires CARB to set GHG emission standards for new passenger vehicles, light-duty trucks, and other vehicles manufactured in and after 2009 whose primary use is non-commercial personal transportation. Phase I of the legislation established standards for model years 2009–2016 and Phase II established standards for model years 2017–2025 (CARB 2017). Refer to Section 4.8, *Greenhouse Gas Emissions*, of this EIR for additional details regarding this regulation.

California Health and Safety Code (HSC), Division 25.5/California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32 (codified in the California HSC, Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. Under HSC Division 25.5, CARB has the primary responsibility for reducing the State's GHG emissions; however, AB 32 also tasked the CEC and the CPUC with providing information, analysis, and recommendations to CARB regarding strategies to reduce GHG emissions in the energy sector.

In 2016, SB 32 and its companion bill AB 197 amended HSC Division 25.5, established a new climate pollution reduction target of 40 percent below 1990 levels by 2030, and included provisions to ensure that the benefits of state climate policies reach into disadvantaged communities. Refer to Section 4.8, *Greenhouse Gas Emissions*, of this EIR for additional details regarding these regulations.

Low Carbon Fuel Standard

The Low Carbon Fuel Standard (LCFS), established in 2007 through Executive Order S-1-07 and administered by CARB, requires producers of petroleum-based fuels to reduce the carbon intensity of their products, starting with 0.25 percent in 2011 and culminating in a 10-percent total reduction in 2020. Petroleum importers, refiners and wholesalers can either develop their own low carbon fuel products, or buy LCFS credits from other companies that develop and sell low carbon alternative fuels, such as biofuels, electricity, natural gas and hydrogen.

California Air Resources Board

CARB's Advanced Clean Car Program

The Advanced Clean Cars emissions-control program was approved by CARB in 2012 and is closely associated with the Pavley regulations. The program requires a greater number of zero-emission vehicle models for years 2015 through 2025 to control smog, soot and GHG emissions. This program includes the Low-Emissions Vehicle (LEV) regulations to reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles; and the Zero-Emissions Vehicle regulations (ZEV) to require manufactures to produce an increasing number of pure ZEV's (meaning battery and fuel cell electric vehicles) with the provision to produce plug-in hybrid electric vehicles (PHEV) between 2018 and 2025.

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

In 2004, CARB adopted an Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling in order to reduce public exposure to diesel particulate matter emissions (Title 13 California Code of Regulations [CCR] Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles.

In addition to limiting exhaust from idling trucks, in 2008, CARB approved the Truck and Bus regulation to reduce NO_x, PM₁₀, and PM_{2.5} emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). The phased regulation aims to reduce emissions by requiring installation of diesel soot filters and encouraging the retirement, replacement, or retrofit of older engines with newer emission-controlled models. The phasing of this regulation has full implementation by 2023.

CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-Road Diesel-Fueled Fleets regulation adopted by CARB on July 26, 2007 aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR Section 2449). The compliance schedule requires full implementation by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

While the goals of these measures are primarily to reduce public health impacts from diesel emissions, compliance with the regulation has shown an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines.

California Environmental Quality Act

In accordance with CEQA and Appendix F, Energy Conservation, of the 2018 CEQA *Guidelines*, and to assure that energy implications are considered in project decisions, EIRs are required to include a discussion of the potential significant energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the CEQA *Guidelines* provides a list of energy-related topics to be analyzed in the EIR. In addition, while not described or required as significance thresholds for determining the significance of impacts related to energy, Appendix F provides the following topics for consideration in the discussion of energy use in an EIR, to the extent the topics are applicable or relevant to the project:

The Project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed;

The effects of the Project on local and regional energy supplies and on requirements for additional capacity;

The effects of the Project on peak and base period demands for electricity and other forms of energy;

The degree to which the Project complies with existing energy standards;

The effects of the Project on energy resources; and

The Project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

In late 2018, the California Natural Resources Agency finalized updates to the 2018 CEQA *Guidelines* (California Natural Resources Agency, 2018). Appendix G was amended to now include the analysis of energy. Previously included in Appendix F, the Appendix G Checklist now provides energy criteria for the analysis of wasteful energy consumption and conflicts with state or local energy efficiency plans (California Natural Resources Agency, 2018). Appendix F did not describe or require significance thresholds for determining the significance of impacts related to energy. According to the updated Appendix G Checklist, Issue VI. Energy, a project would have a significant impact on energy and energy resources if it would:

- a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Local

Kern County General Plan

The goals, policies, and implementation measures in the Energy Element of the Kern County General Plan (Kern County 2009) applicable to energy, as related to the project, are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the project. Therefore, they are not listed below.

Chapter 5. Energy Element

5.4.5. Solar Energy Development

Goal

Goal 1: Encourage safe and orderly commercial solar development.

Policies

Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

Willow Springs Specific Plan

The southern portion of the project site is located within the Willow Springs Specific Plan area. The Willow Springs Specific Plan was adopted in 1992 (most recently revised on April 1, 2008) and contains goals, policies, and standards that are compatible with those in the Kern County General Plan, but are unique to the specific needs of the Willow Springs Specific Plan area. There are no specific energy-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project.

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. Specific analysis methodologies are discussed below. The assessment presented herein is based in part on the Energy Technical Memorandum (ICF, 2019) prepared for the project. A full copy of the report is provided in Appendix G of this EIR.

Construction

Electricity is not expected to be consumed in large quantity during project construction, as construction equipment and vehicles are not electric (diesel- or gas-powered). However, electricity is expected to be consumed from water use during construction. The water-related energy use during project construction was calculated using water usage assumptions provided by the project applicant in combination with CalEEMod defaults for electricity intensity factors associated with water conveyance, treatment, and distribution.

Natural gas is not expected to be consumed in large quantity 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, the project construction equipment and haul trucks would likely be diesel-fueled, while the construction worker commute vehicles would primarily be gasoline-fueled. Construction activity durations, off-road equipment, horsepower ratings, hours of use, and load factors were used to calculate construction-related fuel use, provided by the project applicant and default assumptions from California Emissions Estimator Model (CalEEMod), version 2016.3.2. The estimated fuel economy for haul trucks and worker commute vehicles is based on fuel consumption factors from the CARB EMFAC emissions model, which is a state-approved model for estimating emissions on-road vehicles and trucks. Both OFFROAD and EMFAC are incorporated into CalEEMod, which is a state-approved emissions model used for the Project's air quality and GHG emissions assessment. The energy use associated with fuel consumption during project construction was calculated by converting GHG emissions (i.e., CO₂ emissions) estimated for the project in the Air Quality Technical Report (see Appendix D), using the rate of CO₂ emissions emitted per gallon of combusted gasoline (8.78 kilograms/gallon) and diesel (10.21 kilograms/gallon). The estimated fuel consumption was converted to BTUs, assuming an energy intensity of 109,772 BTUs per gallon of gasoline and 127,460 per gallon of diesel.

Operation

Electricity would be used by the project during solar panel washing as well as by the Operation and Maintenance Building. As with construction, water-related energy use during project operations was calculated using water usage assumptions provided by the project applicant in combination with CalEEMod defaults for electricity intensity factors associated with water conveyance, treatment, and distribution. The energy use associated with 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) was based on the total square footage of the facility (4,800 square feet) in combination with CalEEMod defaults for energy intensity values (electricity usage per square foot per year) for non-residential buildings.

Natural gas is not expected to be consumed in large quantity during project operation. Therefore, natural gas associated with operations was not calculated.

Energy for transportation from employees to the project site was estimated based on the predicted number of trips to and from the project and the estimated VMT. The analysis assumed 8-12 full-time personnel consisting of plant operators, maintenance technicians, and security personnel. Pick-up trucks as well as the vehicles used by workers commuting to and from the project site are assumed to likely use gasoline. On-site operational equipment is likely to use diesel. The energy use associated with fuel consumption during project operation was derived similar to fuel consumption during construction of the project.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify, per Appendix G of the CEQA *Guidelines*, a project would have a significant impact on energy and energy resources if it would:

- a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Project Impacts

Impact 4.6-1: The project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

Construction

Construction and decommissioning of the new solar energy generation facility is expected to require the use of non-renewable resources in the form of gasoline and diesel to power off-road construction equipment and on-road vehicles as well as electricity consumed from water use during construction of the project. As shown in **Table 4.6-2, Project Construction Energy Usage**, construction activities are expected to consume approximately 135,032 gallons of gasoline, 809,350 gallons of diesel and 170,150 kWh of electricity. This is 0.03 percent of Kern County's annual gasoline fuel use in 2018, 0.26 percent of Kern County's annual

diesel fuel use in 2018, and 0.0002 percent of the total electricity consumption in the SCE service area in 2018, respectively.

As noted above, construction of the project would not result in any natural gas consumption on the site. Therefore, the project would not result in wasteful, inefficient, or unnecessary consumption of natural gas, and impacts would be less than significant.

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 Measure MM 4.3-1, as provided in Section 4.3, *Air Quality*, of this EIR, would require the use of energy-efficient and alternatively-fueled equipment during project construction. Implementation of Mitigation Measure MM 4.3-1 would also ensure compliance with Title 13, California Code of Regulations, 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: PROJECT CONSTRUCTION ENERGY USAGE

Source	Total Gallons of Gasoline Fuel	Total Gallons of Diesel Fuel	Total Electricity (kWh)
Kern County (2018); SCE (2018)	454,498,680	308,064,466	83,400,000,000
Construction:			
Trucks	—	355,330	—
Workers	135,032	—	—
Equipment	—	454,020	—
Water Conveyance	—	—	170,150
Total	135,032	809,350	170,150
% of County	0.03%	0.26%	0.0002%
SOURCE: ICF 2019; ESA 2019.			

Operation

Operational energy consumption in the form of electricity would occur as a result of solar panel maintenance and the Operation and Maintenance Building. However, electricity use would be offset by the power produced by the solar panels. In addition, the use of transportation fuel would be minimal and are predominately associated with worker commute trips and occasional panel washing activities. Energy use associated with long-term operational activities is summarized in **Table 4.6-3, Project Operational Energy Usage**. As shown, operation of the project would consume approximately 7,265 gallons of gasoline, 732 gallons of diesel and 47,626 kWh of electricity. This is 0.0016 percent of Kern County's annual gasoline fuel use in 2018, 0.00024 percent of Kern County's annual diesel fuel use in 2018, and 0.00006 percent of the total electricity consumption in the SCE service area in 2018.

TABLE 4.6-3: PROJECT OPERATIONAL ENERGY USAGE

Source	Total Gallons of Gasoline Fuel	Total Gallons of Diesel Fuel	Total Electricity (kWh)
Kern County (2018); SCE (2018)	454,498,680	308,064,466	83,400,000,000
Trucks	—	680	
Workers	7,265	—	—
Equipment	—	52	—
Water Conveyance for Panel Cleaning	—	—	36,202
Operation and Maintenance Building	—	—	11,424
Total	7,265	732	47,626
Percent of County	0.0016%	0.00024%	0.00006%

SOURCES: ICF 2019; ESA 2019.

Total annual electricity generation is estimated to be 393,000 MWh (or 13,755,000 MWh over the life of the project), which more than offsets the energy consumed annually to operate the project (as shown in Table 4.6-3). This production is anticipated to remain relatively constant throughout operation of the project. This electricity generation would assist State investor-owned utilities in meeting their obligations under State RPS guidelines by providing a renewable energy alternative to the utilities' existing power mix. In addition, operation of the project would not result in any natural gas consumption on the site. Therefore, the project would not result in wasteful, inefficient, or unnecessary consumption of electricity or natural gas, and impacts would be less than significant.

As shown in Table 4.6-3, the project would result in 7,265 gallons of gasoline and 732 gallons of diesel per year, representing a fraction of a percent of the County's annual gasoline and diesel use, respectively. As stated in Section 4.15, *Transportation*, trips to the project site would be minimal and panel cleaning would happen periodically. Based on the minimal number of trips, the negligible fuel use, and the cleaning of panels on an as-needed basis, the project would not result in wasteful, inefficient, or unnecessary consumption of transportation fuels. Overall, impacts would be less than significant.

Mitigation Measures

Kern County

Implementation of Mitigation Measure MM 4.3-1, as provided in Section 4.3, *Air Quality*, of this EIR.

State Lands Commission

Implementation of Mitigation Measure MM 4.3-1, as provided in Section 4.3, *Air Quality*, of this EIR.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measure MM 4.3-1, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.3-1, 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 result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. 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. The energy modeling for trucks does not take into account specific fuel reductions from these regulations, since they would apply to fleets as they incorporate newer trucks meeting the regulatory standards; however, these regulations would have an overall beneficial effect on reducing fuel consumption from trucks over time as older trucks are replaced with newer models that meet the standards.

In addition, construction equipment and trucks are required to comply with CARB regulations regarding heavy-duty truck idling limits of five minutes at a location and the phase-in of off-road emission standards that result in an increase in 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.

Operation

In order to meet the AB 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of the 33 percent RPS by 2020 and 50 percent by 2030. 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. The reduction in GHG emissions are 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 393,000 MWh of renewable electricity annually.

Furthermore, as the project would have an electric power generating capacity of approximately 128 megawatts MW (alternating current or “AC”) of renewable electrical energy and up to 60 MW of a Battery Energy Storage System (BESS), 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 tank less 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 could result in a reduction of GHG emissions, no mitigation measures are required.

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 California Code of Regulations, Title 24, 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, which requires 65% 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 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 2020 and 2030 RPS. Therefore, this impact would be less than significant.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

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, there are 49 related projects located within the vicinity of the project site (11 within a 1-mile radius of the project site and 38 within a 6-mile radius). The geographic context for the analysis of cumulative impacts on electricity is SCE's service area because the project and related projects are located within the service boundaries of SCE.

Cumulative projects in the project area listed in **Table 3-4**, *Cumulative Projects List*, largely consist of utility-scale solar power generation facilities. The nature of these projects is such that, like the project, they would be consistent with the strategies of the Climate Change Scoping Plan. In order to meet the AB 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of the RPS target of 33 percent of California's energy coming from renewable sources by 2020. In order to meet the SB 32 GHG emissions reduction mandate, the 2017 Scoping Plan relies on achievement of the RPS target of 60 percent of California's energy coming from renewable sources by 2030 and 100 percent renewable sources by 2045. The project and other similar projects are essential to achieving the RPS.

The main contribution of energy consumption from the project would be from construction equipment usage, haul truck trips, and employee trips during the construction phase and panel washing activities, maintenance trips, and employee trips during project operation of the project as well as electricity used for the Operations and Maintenance Building. The project's emissions would, therefore, contribute to the increase in emissions in the transportation sector as well as electricity generation sector. Construction emissions would be finite and temporary and would cease at the end of construction activities.

Although the project would result in a contribution to cumulative energy consumption in California, construction of the project would implement Mitigation Measure 4.3-1, as provided in Section 4.3, *Air Quality*, of this EIR, would require the use of energy-efficient and alternatively-fueled equipment during project construction. In addition, operation of the project could offset emissions from the electricity generation sector estimated at over 393,000 MWh of renewable electricity annually. As stated above, a majority of the related projects are solar or wind farms that would have similar energy use that would be offset by renewable energy generation and would have minimal operational trips to and from the sites. Overall, the project clearly would not contribute to cumulative energy consumption in California because operation of the project would provide electric power with negligible operational energy consumption over the long term when compared to traditional fossil-fueled generation technologies. Thus, the project would not have a cumulatively considerable impact on energy consumption, would not conflict with any renewable energy plans, and cumulative impacts would be less than significant.

Mitigation Measures

Kern County

Implementation of Mitigation Measure MM 4.3-1, as provided in Section 4.3, *Air Quality*, of this EIR.

State Lands Commission

Implementation of Mitigation Measure MM 4.3-1, as provided in Section 4.3, *Air Quality*, of this EIR.

Level of Significance after Mitigation**Kern County**

With implementation of Mitigation Measure MM 4.3-1, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.3-1, impacts would be less than significant.

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4.7.1 Introduction

This section of the EIR describes the geologic and soil characteristics of the project sites, potential impacts to geology and soils associated with construction and operation of the proposed project, and mitigation measures that would reduce these impacts where applicable. The analysis in this section is largely based on information from the California Environmental Impact Act (CEQA)-level *Preliminary Geology & Soils Technical Report* (ICF, 2019) and the *Paleontological Inventory Report* (Paleo Solutions, 2019). These reports are included in Appendix H and Appendix I of this EIR.

4.7.2 Environmental Setting

Regional Geologic Conditions

The proposed project is located on the western portion of the Mojave Desert Geomorphic Province, which is characterized by broad expanses of desert with localized mountains and dry lakebeds. The Province is bounded by the Garlock Fault to the north, the Basin and Range Province to the east, the San Bernardino Mountains and the Pinto Fault to the south, and the San Andreas Fault to the west. The major faults within the region are the Garlock and San Andreas Faults, which are located approximately 7.7 miles northwest and 15 miles southwest, respectively, of the proposed project site (ICF 2019).

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. Ground shaking occurs as a result of movement along a fracture zone that intermittently releases large amounts of energy during earthquakes. The proposed project is located within the Antelope Valley, where most of the faults trend to the northwest parallel to the San Andreas Fault Zone, and are cut off against the Garlock Fault, which trends to the northeast. The geologic units of the Antelope Valley are divided into consolidated non-water-bearing rocks and unconsolidated water-bearing deposits. Consolidated rocks underlie the unconsolidated deposits and are exposed in the Fairmont and Antelope Buttes. Their composition consists of igneous intrusive and volcanic rocks of pre-Tertiary age, as well as sedimentary rocks of Tertiary age (ICF, 2019).

Paleontological Setting

Paleontological resources are the mineralized (fossilized) remains of prehistoric plants and animals and the mineralized impressions (trace fossils) left as indirect evidence of the form and activity of such organisms. These resources are located within sedimentary rocks or alluvium and are considered to be nonrenewable.

Formations that contain vertebrate fossils are considered more sensitive because vertebrate fossils tend to be rare and fragmentary. Formations containing microfossils, plant casts, and invertebrate fossils are more common. A significant fossil deposit is a rock unit or formation that contains significant nonrenewable paleontological resources. This is defined as comprising one or more identifiable vertebrate fossils, large

or small, and any associated invertebrate and plant fossils, traces, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals such as trackways or nests and middens), which provide datable material and climatic information. This definition excludes invertebrate or botanical fossils except when present within a given vertebrate assemblage. However, invertebrate and botanical fossils may be significant as environmental indicators associated with vertebrate fossils.

Geologic mapping indicates the project site is largely underlain by Holocene-aged (11,650 years ago to present) younger alluvium, with the exception of the western terminus of Gen-Tie Option 3, which is underlain by Pleistocene-aged (2,588,000 to 11,650 years before present) older alluvium (Paleo Solutions, 2019). The Miocene-aged (23.03 to 5.333 million years ago) Gem Hill Formation is mapped east of the project site. Holocene-aged younger alluvium was deposited between approximately 11,000 years ago to present day and consists of clay, silt, sand, and gravel that comprise valleys and alluvial fans. Fossils are generally unknown from Holocene-aged younger alluvium, due to its young age; therefore, these sediments are considered to have a low paleontological potential. However, these sediments overlie older alluvium that is paleontologically sensitive at depth.

Pleistocene-aged older alluvium was deposited between approximately 2.59 million years ago to 11,000 years ago and comprises fluvial sediments deposited on broad canyon floors by ancient river and stream systems. Sediments consist of medium- to coarse-grained sand and gravel from alluvial fans derived from the uplift of adjacent mountains. Pleistocene-aged older alluvium is mapped at the western terminus of the Gen-Tie Option 3 line as well as northwest of the project site (Paleo Solutions, 2019). Ice Age taxa have been recovered from Pleistocene-aged deposits of Kern County, including specimens of extinct horse (*Equus occidentalis*), rabbit (Leporinae), camel (*Procamelus*), dog (Canidae), rodent (*Thomomys*, *Microtus*, *Dipodomys*, *Neotoma*), frog (*Hyla*), and lizard (Lacertilia) (Paleo Solutions, 2019). Approximately 30,000 fossil specimens have been collected from Pleistocene-aged sediments of the McKittrick Tar Pits in western Kern County. These specimens include a diversity of species of bird, rodent, rabbit, camel, horse, bison, pronghorn antelope, and mammoth, as well as plant and insect (Paleo Solutions, 2019). While the depositional environment of the McKittrick Tar Pit locality differs from that of the project site, there is the potential for a similar fauna to be recovered during project excavation. Pleistocene-aged older alluvium is considered to have moderate paleontological potential.

The Miocene-aged Gem Hill Formation is part of the broader Tropico Group, which has a maximum thickness of 2,800 feet and comprises Miocene- to Pliocene-aged non-marine sedimentary and volcanic rocks that are scattered throughout the western Mojave Desert including the proposed project vicinity (Paleo Solutions, 2019). The Miocene-aged Gem Hill Formation is an older unit of the Tropico Group, and it consists primarily of rhyolite and pyroclastic material as well as mixtures of pyroclastic sedimentary rocks (Paleo Solutions, 2019). The Gem Hill Formation is non-fossiliferous and has no documented localities and, therefore, is considered to have very low paleontological potential.

Existing Paleontological Resources

The paleontological resources inventory conducted by Paleo Solutions (2019) included a geologic map review, a literature search, a record search conducted by the Natural History Museum of Los Angeles County (LACM), and a field survey. The geologic map and literature review indicates the project site is largely underlain by Holocene-aged younger alluvium. Pleistocene-aged older alluvium underlies the western

terminus of Gen-Tie Option 3. Miocene-age Gem Hill Formation are mapped within the project vicinity. Detailed descriptions of these three geologic units are provided in the *Paleontological Setting* in Section 4.5.2.

The LACM records search conducted for the project on December 7, 2018 indicates no vertebrate fossil localities have been previously recorded within the project site. However, four fossil localities (LACM 7891, 3722, 7853, and 7884) have been recovered from Pleistocene-aged older alluvial deposits in the project vicinity. These older alluvial deposits likely underlie the project site at depth beneath the Holocene-aged younger alluvium. Locality LACM 7891, located northeast of the project site, produced fossil camel (*Hemiauchenia*). Locality LACM 3722, located north-northwest of the project site, produced fossil horse (*Equus*). Locality LACM 7853, located southeast of the proposed project site, produced fossil coachwhip (*Masticophis*), leaf-nosed snake (*Phyllorhynchus*), lyre snake (*Trimorphodon biscutatus*), desert iguana (*Dipsosaurus dorsalis*), whiptail lizard (*Aspidoscelis tigris*), alligator lizard (*Elgaria*), desert spiny lizard (*Sceloporus magister*), side-blotched lizard (*Uta stansburiana*), desert night lizard (*Xantusia vigilis*), skink (*Plestiodon*), cottontail rabbit (*Sylvilagus audubonii*), wood rat (*Neotoma*), deer mouse (*Peromyscus*), pocket gopher (*Thomomys bottae*), kangaroo rat (*Dipodomys*), pocket mouse (*Perognathus*), ground squirrel (*Ammospermophilus leucurus*), and camel (*Camelops*). Locality LACM 7884, located southeast of the project site, produced fossil camel (*Camelops hesternus*).

A paleontological resources survey was conducted to identify fossil resources exposed at the surface within the project site, as well as to field verify the geological units mapped within the project site. The field survey confirmed the presence of Holocene-aged younger alluvium and Pleistocene-aged older alluvium within the project site. Additionally, although not mapped on geologic maps, artificial fill or previously disturbed sediments were observed in areas where surface disturbance has already taken place. Low-relief drainages throughout the proposed project site yield vertical exposures of Holocene-aged younger alluvium as thick as 12 feet. Pleistocene-aged older alluvium was only encountered along the western-most portion of the proposed Gen-Tie Option 3 on a moderate relief hill/alluvial fan lobe and was not observed within any of the valley floor drainages.

Based on the result of the paleontological resources inventory, each geologic unit within the project site or its vicinity was evaluated according to its potential to produce paleontological resources. Given previous discoveries of fossils in the vicinity of the Project site, the older alluvial deposits are considered to have moderate paleontological potential. Holocene-aged younger alluvial deposits are estimated to be less than 11,000 years old at the surface and are considered to have low potential for producing paleontological resources, because they are typically too young to contain *in situ* fossils. Additionally, previously disturbed sediments or artificial fill will not contain *in situ* fossils, since these sediments have been displaced from their original context. Therefore, these deposits also have a low paleontological potential. The Miocene-aged Gem Hill Formation consists of volcanic rocks, which are formed at high temperatures and pressures not conducive to fossil preservation. Therefore, the Gem Hill Formation rocks have a very low paleontological potential.

Local Geologic Setting

Soils and Topography

The United States Department of Agriculture (USDA) Soil Conservation Service, National Cooperative Soil Survey classifies soils throughout the country. According to the geotechnical report, the USDA soil units identified on the project site include the Cajon loamy sand, Hesperia fine sandy loam, DeStazo sandy

loam, Rosamond loam, Adelanto loamy sand, Hanford coarse sandy loam, and Ramona sandy loam (ICF 2019). These soils are well drained or excessively drained loams with moderate to high infiltration rates.

The project site is located on a hillside that gently slopes from the northwest toward the southeast. Topography within the proposed solar arrays area decreases gradually from 3,000 feet down to 2,700 feet above mean sea level (ICF 2019). The area generally has low relief without significant topographic features.

Groundwater

The project site is located within the Antelope Valley Groundwater Basin. This groundwater basin includes approximately the area south of the Tehachapi Mountains and north of the San Gabriel Mountains. According to information obtained from the State Water Resources Board, average groundwater depths were recorded at approximately 118 feet below ground surface (ICF 2019). Additionally, United State Geological Survey's National Water Information System recorded groundwater depths (at wells nearest the proposed project in the Rogers Lake area) at 92 feet below ground surface (bgs) (well number 010N009W27C002S) and 107 feet bgs (well number 009N009W27H002S) in March of 2016 and October of 2018, respectively (USGS 2018a as cited in ICF 2019).

Fault Rupture

Ground surface rupture occurs along an earthquake fault when movement on a fault deep within the earth breaks through to the surface; rupture may cause damage to aboveground infrastructure and other features. Fault rupture is most likely to occur along the surface expression of identified traces of active faults. Rupture can occur slowly in the form of fault creep, which is known as a continuous fault split of the earth's crust that is not related to a seismic event. Rupture may also occur suddenly during an earthquake; sudden displacements are more damaging to structures than fault creep because they are accompanied by shaking. The State of California has mapped known active faults that may cause surface fault rupture in inhabited areas of the Alquist-Priolo Earthquake Fault Zoning Act. The project site is not located within or near an Earthquake Fault Zone regulated under the Alquist-Priolo Earthquake Fault Zoning act (Jennings 2010). The nearest active fault to the project site is the Garlock Fault, which is approximately 7.7 miles to the northwest.

Ground Shaking

The Southern California region is characterized by, and has a history of, fault stress and associated seismic activity including ground shaking, which can result in damage associated with ground lurching, structural damage, and liquefaction. During a seismic event, the project site may be subjected to high levels of ground shaking due to its proximity to active faults in the area. The type and magnitude of seismic hazards affecting the project site is dependent on the distance to causative faults, the intensity, and the magnitude of the seismic event. Earthquakes are classified by their magnitude, which is a measure of the amount of energy released during an event that can suggest how much ground shaking it would generate. **Table 4.7-1, Probable Earthquake Magnitudes for Regional Faults**, indicates the distance of the fault zones from the proposed project and the associated probable earthquake magnitude (in Moment Magnitude (M_w), an expression of realized magnitude) that can be produced by nearby seismic events. The Garlock Fault, which is located approximately 7.7 miles from the project site, could have the most significant effect from a design standpoint, due to its proximity and history. Other nearby active faults include San Andreas Fault Zone and the White Wolf 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 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 historic times, there have been a few sizable earthquakes recorded along the Garlock Fault Zone and it is considered capable of producing a damaging earthquake. The most recent was a magnitude 5.7 event near the town of Mojave on July 11, 1992. It was believed to have been triggered by the Landers earthquake just 2 weeks earlier. At least one section of the fault has displayed fault creep in recent years. Areas along this fault have been designated by the State as Alquist-Priolo Earthquake Fault Zones, none of which intersect the project site. Also of note is the Ridgecrest earthquakes on July 4th and 5th, 2019, while not associated with the Garlock fault, was centered just north of the Garlock fault.

TABLE 4.7-1: PROBABLE EARTHQUAKE MAGNITUDES FOR REGIONAL FAULTS

Earthquake (Fault)	Approximate Distance to Proposed Project (miles)	Probable Earthquake Magnitude (Moment Magnitude M_w)
Garlock Fault Zone	7.7	6.8–7.6
San Andreas Fault Zone	15	6.8–8.0
White Wolf Fault	25	6.5–7.5

SOURCE: SCEDC 2019a, 2019b, and 2019c

In addition, there are a few inactive faults in proximity to the site that include the Rosamond and Willow Springs faults (ICF 2019). The Rosamond fault is classified as a Pre-Quaternary fault, or fault without recognized Quaternary displacement, and therefore inactive. The USGS defines a Quaternary fault as one that has been recognized at the surface and has moved in the past 1,600,000 years, a portion of the Quaternary epoch. The Willow Springs fault is considered a Quaternary fault and also considered inactive (ICF 2019).

Liquefaction

Liquefaction generally occurs when an area is underlain by loose, sandy soil with a groundwater table higher than 50 feet below ground surface, or when soils are completely saturated. As noted above, based on measurements of nearby wells, the historical high groundwater is on the order of 92 to 118 feet below the ground surface around the project site. Based on the anticipated depth to groundwater, the potential for liquefaction at the project site is considered unlikely (ICF 2019).

Expansive Soils

Expansive soils are characterized by their potential “shrink-swell” behavior. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in certain fine-grained clay sediments from the process of wetting and drying. Clay minerals such as smectite, bentonite, montmorillonite, beidellite, vermiculite, and others are known to expand with changes in moisture content. The higher the percentage of expansive minerals present in near surface soils, the higher the potential for significant expansion. The greatest effects occur when there are significant or repeated moisture content changes. Expansions of 10 percent or more in volume are not uncommon. This change in volume can exert enough force on a

building or other structure to cause cracked foundations, floors and basement walls. Damage to the upper floors of the building can also occur when movement in the foundation is significant. Structural damage typically occurs over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. According to soil survey data, soils found within the proposed project footprint are predominantly classified as non-plastic to low plasticity (ranging from 0.0 percent to 15.0 percent in the Plasticity Index or PI, with the vast majority of the footprint within the 0.0 percent or 2.5 percent PI) with low expansion potential (U.S. Department of Agriculture 1984 as cited in ICF 2019). Plasticity index (PI) is one of the standard Atterberg limits used to indicate the plasticity characteristics of a soil. It is defined as the numerical difference between the liquid limit and plastic limit of the soil. It is the range of water content in which a soil exhibits the characteristics of a plastic solid. Soils that have a high PI have a wide range of moisture content in which the soil performs as a plastic material. Soils with a PI greater than 20 usually have a medium to high swell potential; soils with a PI greater than 35 usually have a very high swell potential. Swelling greatly reduces soil strength. As previously mentioned, the soil survey data found that soils within the proposed project are predominantly classified as non-plastic to low plasticity. Therefore, based on information reviewed, the potential for impacts in the proposed project footprint associated with expansive soils is considered low.

Soil Erosion

Erosion is the wearing away of soil and rock by processes such as mechanical or chemical weathering, mass wasting, and the action of waves, wind and underground water. Excessive soil erosion can eventually lead to damage of building foundations and roadways. In general, areas that are most susceptible to erosion are those that would be exposed during the construction phase when earthwork activities disturb soils and require stockpiling. Typically, the soil erosion potential is reduced once the soil is graded and covered with concrete, structures, asphalt, or slope protection, however changes in drainage patterns can also cause areas to be susceptible to the effects of erosion.

Settlement of Soils

Settlement can occur from immediate settlement (including collapsible soils), consolidation, shrinkage of expansive soil, and liquefaction (discussed above). Immediate settlement occurs when a load from a structure or placement of new fill material is applied, causing distortion in the underlying materials. This settlement occurs quickly and is typically complete after placement of the final load. Consolidation settlement occurs in saturated clay from the volume change caused by squeezing out water from the pore spaces. Consolidation occurs over a period of time and is followed by secondary compression, which is a continued change in void ratio under the continued application of the load.

Soils tend to settle at different rates and by varying amounts depending on the load weight or changes in properties over an area, which is referred to as differential settlement. According to the preliminary geotechnical study, the likelihood of soil instability including collapsible soils to be present at the site is considered low (ICF 2019).

4.7.3 Regulatory Setting

Federal

Clean Water Act (Erosion Control)

The federal Clean Water Act (CWA) (33 U.S.C. 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 (General Permit), Order No. 2009-0009-DWQ. The 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 1997 to “*reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program.*” To accomplish this, the Act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by NEHRP, which refined the description of agency responsibilities, program goals, and objectives.

NEHRP’s mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Programs under NEHRP help inform and guide planning and building code requirements such as emergency evacuation responsibilities and seismic code standards such as those to which the project would be required to adhere.

Paleontological Resources

A variety of federal statutes specifically address paleontological resources. They are generally applicable to a project if that project includes federally owned or federally managed lands or involves a federal agency license, permit, approval, or funding. The first of these is the Antiquities Act of 1906 (54 U.S.C. 320301-320303 and 18 U.S.C. 1866(b)), which calls for protection of historic landmarks, historic and prehistoric structures, as well as other objects of historic or scientific interest on federally administered lands, the latter of which would include fossils. The Antiquities Act both establishes a permit system for the disturbance of any object of antiquity on federal land and also sets criminal sanctions for violation of these requirements.

The Antiquities Act was extended to specifically apply to paleontological resources by the Federal-Aid 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 U.S.C. 4321–4327). The Federal Land Policy Management Act of 1976 (P.L. 94-579; 90 Stat. 2743, U.S.C. 1701–1782) requires that public lands be managed in a manner that will protect the quality of their scientific values, while Title 40 Code of Federal Regulations Section 1508.2 identifies paleontological resources as a subset of scientific resources. The Paleontological Resources Preservation Act (Title VI, Subtitle D of the Omnibus Land Management Act of 2009) is the primary piece of federal legislation.

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.

State

The Alquist-Priolo Earthquake Fault Zoning Act of 1972

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (formerly the Special Studies Zoning Act), regulates the development and construction of buildings intended for human occupancy to avoid hazards associated with surface fault rupture. In accordance with this law, the California Geological Survey maps active faults and designates Earthquake Fault Zones along mapped faults. This act groups faults into categories (i.e., active, potentially active, or inactive). Historic and Holocene faults are considered active, Late Quaternary and Quaternary faults are considered potentially active, and pre-Quaternary faults are considered inactive. These classifications are qualified by conditions. For example, a fault must be shown to be “sufficiently active” and “well defined” through detailed site-specific geologic explorations to determine whether building setbacks should be established. Any project that involves the construction of buildings or structures for human occupancy, such as an operations and maintenance building, is subject to review under the Alquist-Priolo Earthquake Fault Zoning Act, and any structures for human occupancy must be located at least 50 feet from any active fault.

The Seismic Hazards Mapping Act of 1990

In accordance with PRC Chapter 7.8, Division 2, the California Geological Survey is directed to delineate seismic hazard zones. The purpose of the act is to reduce the threat to public health and safety and minimize the loss of life and property by identifying and mitigating seismic hazards, such as those associated with strong ground shaking, liquefaction, landslides, other ground failures, or other hazards caused by earthquakes. Cities, counties, and State agencies are directed to use seismic hazard zone maps developed by the California Geological Survey in their land use planning and permitting processes. In accordance with the Seismic Hazards Mapping Act, site-specific geotechnical investigations must be performed prior to permitting most urban development projects within seismic hazard zones.

California Building Code

The California Building Code (CBC), which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, means of egress facilities, and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The 2016 edition of the CBC is based on the 2015 IBC published by the International Code Council. The code is updated triennially, and the 2016 edition of the CBC was published by the California Building Standards Commission in July 2016, and took effect starting January 1, 2017. The 2019 CBC is anticipated to become effective January 1, 2020. The 2016 CBC contains California amendments based on the American Society of Civil Engineers (ASCE) Minimum Design Standard ASCE/SEI 7-16, *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 PGA magnitudes and source characteristics consistent with the design earthquake ground motions.

Chapter 18 also describes analysis of expansive soils and the determination of the depth to groundwater table. Expansive soils are defined in the CBC as follows:

1803.5.3 Expansive Soil. In areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Soils meeting all four of the following provisions shall be considered expansive, except that tests to show compliance with Items 1,2 and 3 shall not be required if the test prescribed in Item 4 is conducted:

1. Plasticity index (PI) of 15 or greater, determined in accordance with ASTM D 4318.
2. More than 10 percent of the soil particles pass a No. 200 sieve (75 micrometers), determined in accordance with ASTM D 422.
3. More than 10 percent of the soil particles are less than 5 micrometers in size, determined in accordance with ASTM D 422.
4. Expansion index greater than 20, determined in accordance with ASTM D 4829.

Public Resources Code Section 5097.5 and Section 30244

Other state requirements for paleontological resource management are included in Public Resources Code (PRC) Section 5097.5 and Section 30244. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, district) lands.

Local

Construction and operation of the solar facility would be subject to policies and regulations contained within the general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies pertaining to the avoidance of 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 project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development, such as the project. These measures are not listed below, but as stated in Chapter 2, *Introduction*, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Kern County General Plan

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

1.3 Physical and Environmental Constraints

Goal

Goal 1: To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.

Policy

Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 [Seismic Hazard], Map Code 2.2 [Landslide], Map Code 2.3 [Shallow Groundwater], Map Code 2.5 [Flood Hazard], Map Codes from 2.6 – 2.9, Map Code 2.10 [Nearby Waste Facility], and Map Code 2.11 [Burn Dump Hazard]) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.

Implementation Measures

Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize permitted topographic alteration and soil erosion while maintaining soil stability.

Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

Policy

Policy 25: The County will promote the preservation of cultural and historic resources that provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measure

Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Chapter 4: Safety Element

4.1 Introduction

Goal

Goal 1: Minimize injuries and loss of life and reduce property damage.

4.3 Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure

Policy

Policy 1: The County shall require development for human occupancy to be placed in a location away from an active earthquake fault in order to minimize safety concerns.

Implementation Measures

Measure B: Require geological and soils engineering investigations in identifying significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.

Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.

4.5 Landslides, Subsidence, Seiche, and Liquefaction

Policies

Policy 1: Determine the liquefaction potential at sites in areas of shallow groundwater (Map Code 2.3) prior to discretionary development and determine specific mitigation to be incorporated into the foundation design, as necessary, to prevent or reduce damage from liquefaction in an earthquake.

Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.

Willow Springs Specific Plan

The southern half of the proposed project site (approximately 1,298 acres) occurs within the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in 1992 and amended in 2008 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 needs of the expanded Willow Springs area. The geology and soils-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County Department of Planning and Development Services 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

Seismic/Safety Element

Goals

- Goal 1 To preserve cultural resources contained on sensitive sites located within the Willow Springs Specific Plan area.

Policies

- Policy 1 Compliance with site-specific issues, goals, policies, and implementation measures contained in the Seismic/Safety Element of the Kern County General Plan.

Mitigation/Implementation Measures

- Measure 4e The slope and foundation designs for all structures shall be based on detailed soils and engineering studies.

Kern County Code of Building Regulations (Title 17 of the Ordinance code of Kern County)

All construction in Kern County is required to conform to the Kern County Building Code (Chapter 17.08, Building Code, of the Kern County Code of Regulations). Kern County has adopted the CBC, 2013 Edition, with some modifications and amendments. The entire County is in Seismic Zone 4, a designation previously used in the Uniform Building Code 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 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 17.28.140. Erosion Control

- A. Slopes. The faces of cut-and-fill slopes shall be prepared and maintained to control erosion. This control may consist of effective planting. Protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.
- B. Other Devices. Where necessary, check dams, cribbing, riprap, or other devices or methods shall be employed to control erosion and provide safety.
- C. Temporary Devices. Temporary drainage and erosion control shall be provided as needed at the end of each 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 National Pollutant Discharge Elimination System Program

As closed systems never contacting the ocean, many of the waters within Kern County are technically not subject to protective regulations under the federal NPDES Program. The Kern County NPDES Program serves as a regulatory substitute to ensure water quality within the County is maintained during all construction activities, regardless of discharge location. The Kern County NPDES program applies to all projects that would disturb more than 1 acre. The Kern County Engineering and Survey Services Department requires the completion of an NPDES applicability form for projects with construction disturbing 1 or more acres within Kern County. This form requires the applicant to provide background information on construction activities and to identify whether stormwater runoff has the potential of discharging into waters of the United States, be contained on-site, or discharge indirectly off-site to a river, lake, stream, or off-site drainage facility. 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 State Water Resources Control Board (SWRCB) Construction General Permit is required, which requires preparation of a SWPPP. Should stormwater runoff not drain to waters of the United States (e.g., drains to a terminal drainage facility), the applicant would be required to develop a SWPPP and BMPs.

Projects disturbing at least 1 acre of soil in Kern County are required to apply for a County NPDES Storm Water Program Permit. Prior to issuance of the permit, Kern County Engineering, Surveying and Permit Services must verify the applicant's stormwater plans. Applicants must apply for the permit under one of the following four conditions:

1. All stormwater is retained on-site and no stormwater runoff, sediment, or pollutants from on-site construction activity can discharge directly or indirectly off-site or to a river, lake, stream, municipal storm drain, or off-site drainage facilities.
2. All stormwater 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 stormwater 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 SWRCB 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 Onsite Wastewater Treatment System Permitting

The Kern County Public Health Services Department is responsible for permitting, inspecting, and approving onsite wastewater treatment systems including septic tank wastewater disposal systems. The agency provides leach line requirements, seepage pit requirements, percolation testing standards, and other regulations for land development related to wastewater treatment systems.

4.7.4 Impacts and Mitigation Measures

Methodology

Potential significant impacts associated with the project site were identified based on a review of existing literature, and a CEQA-level *Preliminary Geology & Soils Technical Report* prepared by ICF (2019) (see Appendix H) and available data, including the Kern County General Plan. The CEQA-level technical report presents findings, conclusions, and recommendations concerning development of the project based on an engineering analysis of geotechnical properties of the subsurface conditions and evaluation of the underlying soils.

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, would be a significant environmental impact. Direct impacts to paleontological resources primarily concern the potential destruction of 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 (significant impact). At the project-specific level, direct impacts can be mitigated to a less than significant level through the implementation of paleontological 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 adverse effect on geology and soils.

A project would have a significant adverse effect on geology and soils if it would:

- a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
 - Strong seismic ground shaking
 - Seismic-related ground failure, including liquefaction
 - Landslides

- b. Result in substantial soil erosion or the loss of topsoil.
- c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect 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.
- f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Kern County determined in the Notice of Preparation/Initial Study (NOP/IS) that the following environmental issue areas would result in no impacts or less-than-significant 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. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving:
 - ii. Strong groundshaking.
 - iv. Landslides.
- b. Result in substantial soil erosion or the loss of topsoil.

As discussed in the NOP/IS, seismic-related groundshaking was considered likely at the site, but because the proposed project would not establish a permanent on-site population and all construction would be subject to the Kern County Building Code (Chapter 17.08), the proposed project would not expose substantial numbers of people to adverse impacts and the impact is considered less than significant. Conditions for landslides are also not present at the site which is characterized by relatively gradual inclines across the site. Grading would be subject to compliance with the NPDES General Construction Permit requirements and the implementation of required BMPs would have the ability to minimize the potential for erosion or loss of topsoil.

Project Impacts

Impact 4.7-1: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo earthquake fault zoning map issued by the state geologist for the area or based on other substantial evidence of a known fault.

Primary ground rupture is ground deformation that occurs along the surface trace of the causative fault during an earthquake. The proposed project would introduce structures and people to the project site (construction workers and periodic maintenance workers), and could thus expose people and structures to seismic risks. While the project site is located in the highly seismic Southern California region within the influence of several fault systems, it is not transected by a known active or potentially active fault and is not located within an Alquist-Priolo Earthquake Fault Zone. The nearest active fault to the project site is

the Garlock Fault which is approximately 7.7 miles to the northwest. The other faults located in close proximity to the site are the Rosamond and the Willow Springs; however, these are not active faults and, therefore, are unlikely to rupture. Although ground shaking and fault rupture originating from the Rosamond and the Willow Springs faults is unlikely, it cannot be completely ruled out. However, risks associated with these inactive faults are considered *significantly* lower than with the active faults in the area. Due to the distance from the nearest active fault to the project site, the potential for surface fault rupture at the project site is considered negligible.

In addition, construction of the proposed project would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Kern County has adopted the CBC 2016 Edition (CCR Title 24), which incorporates substantially the same requirements as the IBC, 2015 Edition, with some modifications and amendments. Adherence to all applicable regulations would ensure that any potential impacts associated with fault rupture adjacent to the project site would be reduced. Based on project compliance with applicable ordinances of the Kern County Building Code, the potential impact of fault rupture would be less than significant.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

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: seismic-related ground failure including liquefaction.

The proximity of existing active faults to the project site presents the potential for seismic ground shaking, which could result in damage to structures and associated improvements if underlain by subsurface materials susceptible to liquefaction. Should liquefiable materials be present at the project site, damage to the photovoltaic (PV) modules and other ancillary facilities could result, and construction workers and employees could be exposed to potential adverse effects.

According to the preliminary geology and soils report, groundwater at the site ranges from approximately 92 to 118 feet below ground surface. In general, saturated unconsolidated sediments would be needed to be present within the upper 50 feet of ground surface to be considered potentially liquefiable. Shallow

groundwater is not expected on the proposed project site and the site is not within an earthquake zone of required investigation for liquefaction (ICF 2019). In addition, the project operator would be required to evaluate the potential for liquefaction in accordance with all applicable ordinances of the Kern County Building Code (Chapter 17.08) and the CBC in a final design level geotechnical report. The Kern County Engineering, Surveying and Permit Services Department requires the submittal of three sets of plans to the building department for review and approval prior to the issuance of a building permit; County review would ensure compliance with applicable standards. 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 a California-registered professional engineer in accordance with California and Kern County Building Code requirements.

Although potential impacts from liquefaction are unlikely (as discussed above); adherence to the requirements of the Kern County Building Code, and the CBC would ensure that effects from seismic-related ground failure including the potential for liquefaction would be further minimized. The facility would be constructed in accordance with all applicable codes. Therefore, personnel present during the construction and operation phases of the proposed project would not be exposed to a substantial increase in seismic-related ground failure hazards as a result of project implementation. Implementation of these building code requirements and local agency enforcement would reduce impacts to less-than-significant levels.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Impact 4.7-3: The project would be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

Site preparation activities would include preparation of a final design level geotechnical report (as required by the Kern County Code of Building Regulations) that includes an evaluation of onsite soils and recommendations to ensure their ability to support the proposed improvements. The final report's

recommendations would be consistent with the Kern County Building Code (Chapter 17.08) and the most recent version of the CBC. The proposed project site is not in an area of land subsidence or hydrocompaction, nor was it identified within or near an oil/gas field or active oil/gas well (ICF 2019), making the potential for impacts associated with unstable geologic units or soil unlikely. Project construction would include site preparation measures such as use of engineered fill or re-compaction of site soils to meet geotechnical engineering standards necessary to support the proposed improvements. Therefore, based on existing site characteristics, adherence to current building code requirements, and inclusion of (applicable) recommendations contained in the design level geotechnical study, the potential for placement of project elements on unstable soils, causing instability including landslides, lateral spreading, subsidence, liquefaction, or collapse would be less than significant.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Impact 4.7-4: The project would be located on expansive soils creating substantial direct or indirect risks to life or property.

According to information reviewed in the preliminary geology and soils report, soils found within the proposed project footprint are predominantly classified as non-plastic to low plasticity with low expansion potential (ICF 2019). Therefore, the proposed project is unlikely to be affected by or to exacerbate the (already low) expansion potential of onsite soils. In addition, the preparation of a final design level geotechnical study (as required by the Kern County Code of Building Regulations) would confirm site suitability and provide final design and construction recommendations consistent with the Kern County Building Code (Chapter 17.08) and the most recent version of the CBC. Therefore, based on preliminary information on existing site characteristics, adherence to current building code requirements, and inclusion of (applicable) recommendations contained in the design level geotechnical study, the potential for placement of project elements on expansive soils would be less than significant.

Mitigation Measures**Kern County**

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance**Kern County**

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Impact 4.7-5: The project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

The proposed project includes the construction of an O&M facility that would require the construction of a septic wastewater treatment system. If not designed appropriately, the system could result in potential water quality or health risks if soils are not capable of adequately accommodating the projected volume of wastewater. However, the onsite soils have been characterized as well drained and moderate to highly permeable. In addition, the proposed septic system would be required to be permitted through the Kern County Public Health Services Department which includes a permitting process to ensure adequate drainage of wastewater. Prior to construction of the septic system, percolation testing would be required for the proposed location of the septic system to ensure that observed percolation of water can meet minimum standards set by the County. Therefore, based on existing site characteristics and adherence to current septic system testing and code requirements, the potential for soils incapable of adequately supporting the use of septic wastewater would be minimized and the potential impact would be less than significant.

Mitigation Measures**Kern County**

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Impact 4.7-6: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Most of the surficial deposits within the project site consist of younger Quaternary alluvium. Younger Quaternary alluvium is typically not paleontologically sensitive; however, it may be underlain by older Quaternary alluvium, which has moderate potential to contain paleontological resources. If significant vertebrate fossils are encountered during project implementation, disturbance of such resources would result in a potentially significant impact to paleontological resources. Therefore, although surface grading and very shallow excavation within the younger Quaternary alluvium is unlikely to impact sensitive paleontological resources, excavations deeper than 12 feet could extend into the older Quaternary alluvium and impact significant vertebrate fossil resources. This would result in a potentially significant impact to paleontological resources. However, with implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3, 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, impacts to paleontological resources would be reduced to less than significant.

Mitigation Measures

Kern County

MM 4.7-1: The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (SVP, 2010), to carry out all mitigation measures related to paleontological resources.

1. Prior to the start of any ground disturbing activities, the qualified paleontologist shall conduct a Paleontological Resources Awareness Training program for all construction personnel working on the project. A Paleontological Resources Awareness Training Guide approved by the qualified paleontologist shall be provided to all personnel. A copy of the Paleontological Resources Awareness Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form.
2. 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 onsite and available for all personnel to review and be familiar with as necessary.

MM 4.7-2: A qualified paleontologist or designated monitor shall monitor all ground-disturbing activity (with the exception of vibratory or hydraulic installation of tracking or mounting structures and foundations or supports) that occurs at a depth of 12 feet or deeper below ground surface in areas mapped as younger Quaternary alluvium and for all ground disturbance within the mapped older Quaternary Alluvium within the western portion of Gen-Tie Option 3, should that alternative be selected.

1. 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.
 - a. 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.
2. 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.
3. Following the completion of construction, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources onsite. 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 4.7-3: If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials. Accompanying notes, maps, and photographs shall also be filed at the repository.

State Lands Commission

MM 4.7-1: The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (SVP, 2010), to carry out all mitigation measures related to paleontological resources.

1. Prior to the start of any ground disturbing activities, the qualified paleontologist shall conduct a Paleontological Resources Awareness Training program for all construction personnel working on the project. A Paleontological Resources Awareness Training Guide approved by the qualified paleontologist shall be provided to all personnel. A copy of the Paleontological Resources Awareness Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form.
2. 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 onsite and available for all personnel to review and be familiar with as necessary.

MM 4.7-2: A qualified paleontologist or designated monitor shall monitor all ground-disturbing activity (with the exception of vibratory or hydraulic installation of tracking or mounting structures and foundations or supports) that occurs at a depth of 12 feet or deeper below ground surface in areas mapped as younger Quaternary alluvium and for all ground disturbance within the mapped older Quaternary Alluvium within the western portion of Gen-Tie Option 3, should that alternative be selected.

1. 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.
 - a. 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.
2. 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.
3. Following the completion of construction, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources onsite. 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 4.7-3: If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials. Accompanying notes, maps, and photographs shall also be filed at the repository.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3, impacts would be reduced to less than significant.

State Lands Commission

With implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3, impacts would be reduced to less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Impacts of the project 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 3-4, *Cumulative Projects List*, would also be subject to similar seismic hazards. However, the effects of these projects are not of a nature to cause cumulatively significant effects from geologic impacts or on soils because such impacts are site specific and would only have the potential to combine with impacts of the project if they occurred in the same location as the project.

Development of the project, with implementation of the regulatory requirements discussed above, would result in less-than-significant impacts related to exposing persons or structures to geologic, soils, 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 exposing 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 same CBC and Kern County Building Code, which would reduce the risk to people and property to less-than-significant levels. While future seismic events cannot be predicted, adherence to all federal, state, and local programs, requirements and policies pertaining to building safety and construction would limit the potential for injury or damage to a less-than-significant level. Therefore, the project, combined with past, present, and other foreseeable development in the area, would not result in a cumulatively significant impact by exposing people or structures to risk related to geologic hazards, soils, and/or seismic conditions. 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. Construction constraints are primarily based on specific sites within a proposed development and on the soil characteristics and topography of each site. Individual projects are required to comply with applicable codes, standards, and permitting requirements (e.g., preparation of a SWPPP) to mitigate erosion impacts. Development of the project site has the potential to contribute to soil erosion and loss of topsoil during construction however these potential impacts would be mitigated through the implementation of the required SWPPP and BMPs. Impacts associated with erosion are mitigated on a project-by project basis and other cumulative scenario projects would be required to adhere to similar requirements, thereby minimizing cumulative scenario erosion impacts.

Specifically, all planned projects in the vicinity of the project are subject to environmental review and would be required to conform to the Kern County General Plan and Building Code, and would implement additional mitigation of seismic hazards to ensure soil stability. With implementation of regulatory requirements, the project would not contribute to any cumulative impacts for geologic, seismic hazards or related events. Moreover, implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3 would ensure that the project does not have any significant impacts related to paleontological resources. As a result, with implementation of mitigation, cumulative impacts related to geology and soils are less than significant.

The geographic scope for cumulative effects to paleontological resources includes the north-central portion of the Antelope Valley that surrounds the area of the Proposed Action. 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 Antelope 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 of the proposed project. Implementation of Mitigation Measure MM 4.7-1 requires paleontology sensitivity training for construction workers and Mitigation Measure MM 4.7-2 requires appropriate monitoring of construction activities for potential paleontological resources that may be encountered. Implementation of these mitigation measures would reduce potential impacts to paleontological resources to a less-than-significant level. Furthermore, the implementation of Mitigation Measure MM 4.7-3 would ensure the appropriate protocol is followed with regard to identifying and handling remains, should paleontological resources be disturbed.

With implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3, 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 Antelope Valley, cumulative impacts to paleontological resources would be less than significant.

Mitigation Measures

Kern County

Implement Mitigation Measures MM 4.7-1 through MM 4.7-3.

State Lands Commission

Implement Mitigation Measures MM 4.7-1 through MM 4.7-3.

Level of Significance after Mitigation**Kern County**

With implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3, cumulative impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3, cumulative impacts would be less than significant.

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Section 4.8

Greenhouse Gas Emissions

4.8.1 Introduction

This section of the EIR describes the affected environment and regulatory setting relating to greenhouse gases (GHGs) for the project. This section also describes the impacts associated with GHGs that would result from implementation of the project, and, as necessary, mitigation measures that would reduce these impacts.

Information in this section is based primarily on the GHG section of the project's air quality technical report, *Final Air Quality Technical Report* (ICF, 2019), located in Appendix D of this EIR and incorporated by reference herein. 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), U.S. Environmental Protection Agency (USEPA), and the applicable provisions of the California Environmental Quality Act (CEQA).

4.8.2 Environmental Setting

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. CARB has divided California into regional air basins. The project site is located in the northwestern portion of the Mojave Desert Air Basin (MDAB) and is under the jurisdiction of the Eastern Kern Air Pollution Control District (EKAPCD).

Greenhouse Gases

GHGs refer to gases that absorb and re-emit infrared radiation in the atmosphere. Many chemical compounds found in Earth's atmosphere act as GHGs, which allow sunlight to enter the atmosphere freely. When sunlight strikes Earth's surface, some of it is reflected back toward space as infrared radiation (heat). GHGs, however, absorb some of this infrared radiation and trap the heat in the atmosphere. Over time, the amount of energy sent from the sun to Earth's surface should be about the same as the amount of energy radiated back into space, leaving the temperature of Earth's surface roughly consistent. However, many gases exhibit the "greenhouse" properties. Some of them occur in nature (water vapor, carbon dioxide, methane, and nitrous oxide) while others are exclusively human-made (e.g., gases used for aerosols). The principal GHGs are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs), are listed below (USEPA, 2017).

- **Carbon dioxide:** CO₂ enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the manufacture of cement). CO₂ is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.

- **Methane:** CH₄ is emitted during the production and transport of coal, natural gas, and oil. CH₄ emissions also result from livestock and agricultural practices and the decay of organic waste in municipal solid waste landfills.
- **Nitrous oxide:** N₂O is emitted during agricultural and industrial activities and during combustion of fossil fuels and solid waste.
- **Fluorinated gases:** HFCs, PFCs, and SF₆ are synthetic, powerful climate-change gases emitted from a variety of industrial processes. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in minute quantities, but because they are potent climate-change gases, they are sometimes referred to as high Global Warming Potential (GWP) gases.
- **Sulfur hexafluoride:** SF₆ is a colorless, odorless, nontoxic, nonflammable gas. SF₆ is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity, including equipment such as electrical circuit breakers, which may be used for the project. The California Climate Action Registry (Registry) lists SF₆ as a potential source of fugitive emissions from electrical transmission and distribution equipment. Fugitive emissions are unintentional leaks of GHGs from equipment such as joints, seals, and gaskets.

Because different GHGs have different GWPs and CO₂ is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO₂ equivalents (CO₂e). For example, SF₆ is a GHG commonly used in the utility industry as an insulating gas in circuit breakers and other electronic equipment. SF₆, while comprising a small fraction of the total GHGs emitted annually worldwide, is a much more potent GHG with 22,800 times the GWP as CO₂. Therefore, an emission of 1 metric ton (MT) of SF₆ could be reported as an emission of 22,800 MTCO₂e (CARB, 2014a). Large emissions sources are reported in million MT (MMT) of CO₂e (MMTCO₂e).

Greenhouse Gas Emissions Inventories

California produced approximately 424.1 gross MMTCO₂e in 2017, which is below the State's GHG reduction target of 1990 level GHG emissions (i.e., 431 MMTCO₂e) by 2020. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2016, accounting for approximately 40 percent of total GHG emissions in the state. This sector was followed by the industrial sector at approximately 21 percent and the electric power sector (including both in-state and out-of-state sources) at approximately 15 percent (CARB, 2019a). CARB has projected that, unregulated, statewide GHG emissions for the year 2020 will be approximately 509 MMTCO₂e (CARB, 2014b). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions. California GHG emissions by economic sector from 2009 to 2017 are summarized in **Table 4.8-1, California Greenhouse Gas Emissions (MMTCO₂e)**.

Climate Change

GHGs are gases in the atmosphere that trap heat. The major concern with GHGs is that increases in GHG concentrations in the atmosphere are causing global climate change, which is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of the impacts attributable to GHGs from human activities, most in the world-wide scientific community agree that there is a direct link between increased emissions of GHGs and long-term global temperature increases (i.e., global warming).

TABLE 4.8-1: CALIFORNIA GREENHOUSE GAS EMISSIONS (MMTCO₂E)

Emission Inventory Category	2009	2010	2011	2012	2013	2014	2015	2016	2017
Transportation	170.20	165.13	161.76	161.31	160.91	162.53	166.18	168.76	169.86
Electricity Generation (In State)	53.33	46.75	41.10	51.02	49.42	51.68	49.88	42.28	38.45
Electricity Generation (Imports)	48.04	43.59	46.87	44.50	39.98	36.79	33.93	26.32	23.94
Commercial	12.89	13.58	13.71	13.41	13.30	12.52	12.67	13.14	13.02
Industrial	87.90	91.50	90.17	91.08	93.69	94.02	91.48	89.49	89.40
Residential	29.32	30.06	30.51	28.21	29.02	23.75	24.17	25.27	26.00
Agriculture	32.85	33.68	34.34	35.46	33.99	35.06	33.75	33.51	32.42
High Global Warming Potential	12.29	13.52	14.53	15.51	16.75	17.73	18.60	19.26	19.99
Recycling and Waste	8.27	8.37	8.47	8.49	8.52	8.59	8.73	8.81	8.89
Total Gross Emissions	457.3	448.5	443.6	451.2	447.7	444.7	441.4	429.0	424.1

SOURCE: CARB, 2019b.

According to CARB, the potential impacts in California due to global climate change may include: loss in snow pack; sea level rise; more extreme heat days per year; more high ozone days; larger forest fires; more drought years; increased erosion of California's coastlines and seawater intrusion into the Sacramento and San Joaquin Deltas and associated levee systems; and increased pest infestation (CalEPA, 2006). Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2001):

- Higher maximum temperatures and more hot days over nearly all land areas
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas
- Reduced diurnal temperature range over most land areas
- Increase of heat index over land areas
- More intense precipitation events

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, ocean acidification (including coral bleaching), impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood, the potential for substantial environmental, social, and economic consequences over the long-term may be great.

4.8.3 Regulatory Setting

Federal

The principal air quality regulatory mechanism at the federal level is the federal Clean Air Act (CAA) and in particular, the 1990 amendments to the CAA and the National Ambient Air Quality Standards (NAAQS) that it establishes. The federal CAA does not specifically regulate GHG emissions; however, the U.S. Supreme Court has determined that GHGs are pollutants that can be regulated under the CAA. There are currently no federal regulations that set ambient air quality standards for GHGs.

USEPA regulations applicable to the project include:

Federal Clean Air Act

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-CO₂ gases, agricultural practices, and implementation of technologies to achieve GHG reductions. 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.

In 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the federal CAA. USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆). The Endangerment Finding was required before USEPA could regulate GHG emissions under Section 202(a)(1) of the CAA. 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 CO₂ 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 CO₂ per mile. According to the EPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle. In 2017, the EPA recommended no change to the GHG standards for light-duty vehicles

for model years 2022-2025 (USEPA, 2018). In August 2018, the EPA and NHTSA proposed the Safer Affordable Fuel-Efficient Vehicles Rule that would, if adopted, would maintain the CAFE and CO₂ standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO₂ standards for model year 2020 are 43.7 mpg and 204 g/mi for passenger cars and 31.3 mpg and 284 grams of CO₂ 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 CO₂-equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020 (USEPA and NHTSA, 2018).

Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles

In 2011, the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018 (76 FR 57106–57513). The standards for CO₂ 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 CO₂ 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 MTCO₂e emissions per year (USEPA, 2011). Additionally, reporting of emissions is required for owners of SF₆- 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 the rule; however, GHG emissions of the project are quantified in this EIR.

40 CFR Part 52. Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule

USEPA mandated to apply Prevention of Significant Deterioration (PSD) requirements to facilities whose stationary source CO₂e emissions exceed 75,000 tons per year (USEPA 2010). The project would not be expected to trigger PSD permitting as required by this regulation; however, GHG emissions of the project are quantified in this EIR.

Fuel Efficiency Standards for Construction Equipment

The federal government sets fuel efficiency standards for non-road diesel engines that are used in construction equipment. The regulations, contained in 40 CRF Parts 1039, 1065, and 1068, include multiple

tiers of emission standards. Most recently, the USEPA adopted a comprehensive national program to reduce emissions from non-road diesel engines by integrating engine and fuel controls as a system to gain the greatest reductions. To meet these Tier 4 emission standards, engine manufacturers will produce new engines with advanced control technologies (USEPA 2004).

State

Executive Order S-1-07

Executive Order 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 Executive Order 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_{2e} 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.

Executive Orders S-3-05 and B-30-15

Executive Order S-3-05 sets target dates to reduce statewide GHG emissions to historical levels, as follows:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

Executive Order B-30-15 sets a target date of 2030 to reduce GHG emissions to 40 percent below 1990 levels. Executive Orders S-3-05 and B-30-15 are only applicable to "State agencies with jurisdiction over sources of greenhouse gas emissions" (Order 4-29-2015 Section 2), and Kern County is not a State agency. Furthermore, there is currently no implementation strategy for these Executive Orders (i.e., a plan, which apportions GHG reductions by economic sector/activity/region, similar to the Assembly Bill (AB) 32 Climate Change Scoping Plan).

Assembly Bill 32 and Senate Bill 32

In 2006, Assembly Bill (AB) 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006) focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆ and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions, and is required to adopt rules and regulations directing State actions that would reduce GHG emissions to 1990 levels by 2020.

In 2016, Senate Bill (SB) 32 and its companion bill, AB 197, amends HSC Division 25.5 and establishes a GHG reduction target of 40 percent below 1990 levels by 2030, and includes provisions to ensure the benefits of State climate policies reach into disadvantaged communities.

Climate Change Scoping Plan

AB 32 required preparing a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (HSC Section 38561 (h)). CARB developed a Climate Change Scoping Plan that contains strategies to achieve the 2020 emissions cap (CARB, 2008). In 2008, the initial Climate Change Scoping Plan contained a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives. In 2014, the First Update to the Scoping Plan upon the initial Climate Change Scoping Plan with new strategies and recommendations (CARB, 2014b). CARB revised the projected statewide 2020 emissions estimate of 509.4 MMTCO₂e using the GWP values from the IPCC AR4 509.4 MMTCO₂e (CARB, 2014b). Therefore, the emission reductions necessary to achieve the 2020 emissions target of 431 MMTCO₂e would be 78.4 MMTCO₂e, or a reduction of GHG emissions by approximately 15.4 percent. In 2017, the 2017 Scoping Plan established a 2030 GHG reduction target of 40 percent emissions reductions below 1990 levels (CARB, 2017a).

Senate Bill 97

SB 97 was enacted requiring the Office of Planning and Research (OPR) to develop guidelines for the mitigation of GHG emissions, or the effects related to releases of GHG emissions. OPR submitted proposed amendments to the Natural Resources Agency in accordance with SB 97 regarding analysis and mitigation of GHG emissions. As directed by SB 97, the Natural Resources Agency adopted Amendments to the *CEQA Guidelines* for GHG emissions, which became effective in 2010.

Senate Bill 375

SB 375 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. CARB adopted the vehicular GHG emissions reduction targets, in consultation with the metropolitan planning organizations (MPOs), which require a 7 to 8 percent reduction by 2020 and a 13 to 16 percent reduction by 2035, for each MPO. SB 375 recognizes the importance of achieving significant GHG reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs, such as the Kern Council of Governments (KCOG), will work with local jurisdictions in the development of sustainable community strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces GHG emissions while meeting housing needs and other regional planning objectives. KCOG's reduction target for per capita vehicular emissions is 5 percent by 2020 and 10 percent by 2035 (CARB, 2010).

KCOG adopted the 2018 Regional Transportation Plan (RTP), which includes a Sustainable Community Strategies (SCS) component in accordance with SB 375. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County.

California Green Building Standard Code

The State of California adopted the 2010 CALGreen Code, which became effective in January 2011. Building off of the initial 2008 California Green Building Code, the 2010 CALGreen Code represents a more stringent building code that requires, at a minimum, that new buildings and renovations in California meet certain sustainability and ecological standards. The 2010 CALGreen Code has mandatory Green Building provisions for all new residential buildings that are three stories or fewer (including hotels and motels) and all new non-residential buildings of any size that are not additions to existing buildings.

The California Building Standards Commission adopted the 2013 California Building Standards Code that also included the latest 2013 CALGreen Code, which became effective on January 1, 2014. The mandatory provisions of the code are anticipated to reduce GHG emissions by 3 MMTCO₂e 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.

California Renewables Portfolio Standard

First established in 2002 under SB 1078, California's Renewables Portfolio Standard (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030 (California Energy Commission, 2019). In 2018, SB 100 further increased California's RPS and required retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by the end of 2024, 52 percent by the end of 2027, and 60 percent by the end of 2030; and that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. The CPUC's responsibilities include: (1) determining annual procurement targets and enforcing compliance; (2) reviewing and approving each investor-owned utility's renewable energy procurement plan; (3) reviewing contracts for RPS-eligible energy; and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy.

Senate Bill 100

SB 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases") was approved by the California legislature and signed by Governor Brown in September 2018. The bill increases RPS in 2030 from 50 percent to 60 percent and establishes a goal of 100 percent RPS by 2045.

Senate Bill 1368

SB 1368 requires the CPUC to establish a baseload generation standard for publicly owned or leased facilities which generate electricity at a GHG Emissions Performance Standard (EPS) of 1,100 pounds of CO₂e per megawatt-hour. SB 1368 also requires the posting of notices of public deliberations by publicly owned companies on the CPUC website and establishes a process to determine compliance with the EPS.

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combined the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2019c). 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 EPA 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 (California Air Pollution Control Officers Association 2008). The strategies provided in that document are guidelines only and have not been adopted by any regulatory agency. The white paper serves as a resource to assist lead agencies in evaluating GHGs during review of environmental information documents. The methodologies used in this GHG analysis are consistent with the CAPCOA guidelines.

Regional

2018 Regional Transportation Plan/Sustainable Communities Strategy

The KCOG is the regional planning agency for Kern County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. KCOG serves as the federally designated metropolitan planning organization for Kern County. With respect to air quality planning and other regional issues, KCOG has prepared the 2018 Regional Comprehensive Plan 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 an SCS component in accordance with SB 375, the Sustainable Communities and Climate Protection Act of 2008. The Kern COG board of directors adopted its first SCS on June 19, 2014, and made a determination that, if implemented, the SCS would achieve the per capita passenger vehicle GHG emissions targets established by the board of directors. The 2020 target is a 5% per capita reduction and the 2035 target is a 10% 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 (Kern County, 2009) 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 1. Land Use, Conservation, and Open Space Element

Air Quality

Policies

- Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision-making body, as part of its deliberations, will ensure that:
- (1) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and
 - (2) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

Implementation Measures

Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:

1. Minimizing idling time.
2. Electrical overnight plug-ins.

Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:

1. Pave dirt roads within the development.
2. Pave outside storage areas.
3. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.
4. Use of alternative fuel fleet vehicles or hybrid vehicles.
5. Use of emission control devices on diesel equipment.
6. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces.
7. Provide bicycle lockers and shower facilities on site
8. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).
9. The use and development of park and ride facilities in outlying areas.
10. Other strategies that may be recommended by the local Air Pollution Control Districts.

Chapter 5. Energy Element**Solar Energy Development****Policies**

Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

In 2009, the Kern County Board of Supervisors approved the proposed list of Energy, Efficiency, and Conservation projects for which the County will request funding under the provisions of the American Recovery and Reinvestment Act of 2009. The Kern County Planning and Natural Resources Department has requested an allocation for the preparation of a Climate Change Action Plan (CCAP) for the County General Plan. California's Climate Change Scoping Plan calls for local governments to reduce GHG emissions through the adoption of local programs as an important strategy to reduce community scale GHG emissions. Project conformance with an adopted CCAP would ensure the goal of AB 32 can be attained with the project.

Willow Springs Specific Plan

The project site is located within the Willow Springs Specific Plan area. The Willow Springs Specific Plan was adopted in 1992 (most recently revised on April 1, 2008) and includes policies and implementation measures to minimize air quality impacts, which would also reduce project GHG emissions. The following summarizes the policies and implementations measures from the Willow Springs Specific Plan that are applicable to the project.

Air Quality

Goal

Goal: Imposition of appropriate mitigation measures to reduce where practical to do so, the effect short-term and long-term projects have on the areas which involve grading activities, erosion controls, revegetation of disturbed sites, and provisions to introduce into the plan are a competitive job market to reduce travel times.

Implementation Measures

Measure 3: Construction equipment shall be fitted with the most modern emission control devices and be kept in proper tune. Motors out of proper tune can result in emissions that vastly exceed recommended standards.

Measure 7: All phases of the Willow Springs Specific Plan Update project shall comply with applicable rules and regulations of the Kern County Air Pollution Control District.

Eastern Kern Air Pollution Control District

In 2012, 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 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 CO₂e per year (22,680 MTCO₂e). This impacts would be considered to be fully reduced to below the significance level if it meets one of the following conditions:

- The project demonstrates to EKAPCD that it is in compliance with a state GHG reduction plan such as AB 32 or future GHG reduction plan it if is more stringent than the state plan; or
- Project GHG emissions can be reduced by at least 20 percent below business as usual (BAU) through implementation of one or more of the following strategies:
 - Compliance with Best Performance Standard (BPS);
 - Compliance with GHG Offset; and/or
 - Compliance with an Alternative GHG Reduction Strategy.

4.8.4 Impacts and Mitigation Measures

Methodology

The project's potential impacts to GHGs have been evaluated using a variety of resources, including the Air Quality Technical Report (ICF, 2019), which is provided in Appendix D of this EIR, and relevant literature including information and guidelines by CARB, EPA, and the applicable provisions of CEQA. Additionally, the GHG savings from a 128 MW solar project were estimated. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described in the Thresholds of Significance section.

Construction and Decommissioning

Construction of the project is anticipated to occur over an approximately 10 to 14-month period; however, for the purposes of this analysis, it was assumed that construction activities would be completed within a single calendar year. Emissions were estimated using a combination of emission factors and methodologies from the CalEEMod emissions model, CARB's EMFAC2017 model, and project-specific construction data (e.g., schedule, equipment, truck volumes) provided by the project applicant. GHG emissions for construction of the project were calculated as follows:

- **Off-Road Equipment:** Off-road equipment would be required for several construction activities including demolition, grading, and structure construction. GHGs were estimated by multiplying the CalEEMod emission factors by the equipment inventory and activity assumptions (e.g., horsepower, hours of use per day) provided by the project applicant.
- **On-Road Vehicles:** On-road vehicles (e.g., passenger vehicles, pickup trucks, flatbed trucks) would be required for material deliveries to the project site, equipment hauling, onsite crew and material movement, and employee commuting. Exhaust emissions from on-road vehicles were estimated using the EMFAC2017 emissions model and activity data (miles traveled per day) provided by the project applicant. Emission factors for haul trucks are based on aggregated-speed emission rates for EMFAC's T7 Single Construction vehicle category. Emission factors for water trucks are based on aggregated-speed emission rates for EMFAC's T6 Instate Heavy vehicle category. To estimate vehicle travel within the project area, emission factors for onsite water trucks were based on the same vehicle categories but assuming a 15 mph travel speed. Per the project applicant, 43 vendor trips per day would be required for delivery of equipment and materials, including the solar panels for installation, for the duration of project construction. According to transportation analysis, the average trip length for vendor and material delivery trips from local and non-local sources is approximately 57 miles (Ruetters & Schuler, 2019).

Water trucks would be required for several construction phases to provide fugitive dust control, with as many as 36 expected on a given day. According to the Water Supply Assessment, the potential locations for water supply are at 125th Street West and Rosamond Boulevard or 120th Street West and Rosamond Boulevard, which are 5.6 miles and 5.1 miles from the project site, respectively (Watearth, 2019). For the purposes of providing a conservative analysis, a one-way trip distance of 6 miles was assumed for delivery of water during construction.

Emission factors for employee commute vehicles are based on a weighted average for all vehicle speeds for EMFAC's light-duty automobile/light-duty truck vehicle categories. Per the project applicant, the average construction day would consist of 220 one-way employee commute trips. According to the transportation analysis, 80 percent of the personnel during construction is

expected to travel to the project site from the local area, which would include the cities of Lancaster, Rosamond, and Mojave. The remaining 20 percent of construction personnel is expected to travel from areas outside of the Antelope Valley, such as Bakersfield and Tehachapi. Given this information, it was assumed that the average trip length for employee travel would be approximately 25 miles (Ruettgers & Schuler, 2019).

- **Concrete Batching:** The project may include a concrete batch plant. Concrete is composed essentially of water, cement, sand (fine aggregate), and coarse aggregate. CO₂ emissions during concrete batching result from fuel combustion and calcination. Calcination, which accounts for approximately 60 percent of total emissions generated by batching facilities, involves heating raw materials to over 2,500 °F, which liberates CO₂ and other trace materials (Worrell et al., 2001). CO₂ emissions at the temporary batch plant were quantified using emission factors from Nisbet et al. 2002. It was assumed that the plant would process up to 11,000 cubic yards of concrete per year, or approximately 30 cubic yards per day.
- **Electricity Consumption:** GHG emissions generated by electricity related to water demand during construction were quantified using activity data (e.g., megawatt-hours [MWh]) provided by the project applicant and emission factors from SCE (Southern California Edison, 2017). Based on information provided by the project applicant, total water use during construction would be approximately 47 acre-feet.
- **Joshua Tree Removal and Mulching:** The removal and mulching of 3,911 Joshua Trees on site would result in GHG emissions impacts related to reduced annual carbon sequestration, and the one-time release of carbon stored in the trees if mulched. The CO₂ sequestration rate and total stored CO₂ were quantified using the U.S. Forest Service's Center for Urban Forest Research Tree Carbon Calculator (USDA, 2018).

The project has a tentative life of 35 years. At which time the operations can be renewed and onsite technology updated, or the project could 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 would be anticipated that the decommissioning activities would be reduced from 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 resulting in anticipated substantial reductions in emissions from what is presented for construction activities.

Operation

Long-term operational emissions modeling included facility operations, worker commute trips, as well as haul truck trips and equipment operations (i.e., power washers) associated with the washing of solar panels. GHG emissions would result from off-road equipment exhaust from pressure washers, on-road vehicle trip generation for water trucks for panel cleaning, weekly potable water deliveries, employee trips, and electricity from water demand. Emission factors for the use of pressure washers were obtained from the CalEEMod User's Guide appendix. Exhaust emissions from on-road vehicles were estimated using the EMFAC2017 emissions model and activity data (miles traveled per day) provided by the project applicant.

The GHG emissions generated from project operation would be displaced due to the renewable solar energy produced at the site. Emissions displacement was estimated using EPA's Emissions & Generation Resource

Integrated Database (eGrid) and information on California's RPS goals. GHG emissions during operation of the project were calculated as follows:

- **Off-Road Equipment:** Pressure washers would be required for periodic panel washing at the project site during normal operations. Per the project applicant, it was assumed that panel washing would occur up to two times per year and take approximately 5 days to complete (i.e., a total of 10 days annually), assuming use of three pressure washers per day. Emission factors for the use of the pressure washers were obtained from the CalEEMod User's Guide appendix, which provides value per unit of activity (in grams per horsepower-hour) by calendar year (CARB, 2017b). The CalEEMod default horsepower and load factors were used to estimate criteria air pollutant generation.
- **On-Road Vehicles:** On-road vehicles (e.g., pickup trucks, water trucks, passenger vehicles) would be required for delivery of potable water to the project site, delivery of water for panel washing, and employee commuting. Exhaust emissions from on-road vehicles were estimated using the EMFAC2017 emissions model and activity data (miles traveled per day) provided by the project applicant. It was assumed that potable water for the Operations and Maintenance facility (not panel washing) would be delivered from local sources, and an average distance of 25 miles per trip was assumed. Vendor trucks delivering potable water are based on aggregated speed emission rates for EMFAC's T7 Single Construction vehicle category.

Emission factors for hauling of water for panel washing are based on aggregated-speed emission rates for EMFAC's T6 in-state heavy category. Per the project applicant, 33 trips per day would be required for the delivery of water during panel washing. Water during operations is assumed to be provided from the same location as water for construction. According to the Water Supply Assessment, the potential well locations for project water supply are 125th Street West and Rosamond Boulevard, or 120th Street West and Rosamond Boulevard, which are 5.5 miles and 5.0 miles from the project site, respectively (Watearth, 2019). For the purposes of providing a conservative analysis, a one-way trip distance of 6 miles was assumed for delivery of water during panel washing.

Emission factors for employee commute vehicles are based on a weighted average for all vehicle speeds for EMFAC's light-duty automobile/light-duty truck vehicle categories. Per the project applicant, typical daily operation of the solar facility would require up to 12 full-time staff at the Operations and Maintenance facility, with an additional eight workers required during panel washing. As with project construction, employee travel distance was assumed to be 25 miles per trip.

- **Energy Consumption:** Energy sources include electricity consumption from staff use of lighting, space heating and cooling units, general appliances, and water heating in the Operations and Maintenance facility, as well as electricity related to general water demand at the facility. Emissions generated from electricity at the Operations and Maintenance facility were quantified using total square feet of the facility (4,800), which was provided by the project applicant, in combination with CalEEMod defaults, and emission factors from SCE (Southern California Edison, 2017).

GHG emissions generated by electricity related to water demand (pumping/conveyance) during normal operations were quantified using activity data (e.g., MWh) provided by the project applicant and emission factors from SCE, which is the known provider during operation. Based on information provided by the project applicant, total water use during operation would be approximately 10 acre-feet.

- **Energy Generation:** The proposed solar facility would generate renewable energy with no associated GHG emissions. Therefore, operation of the project would result in displaced GHG emissions due to the gradual switch from non-renewable GHG-generating energy to renewable energy.

Energy displacement and the subsequent emissions displacement from the proposed solar facility were calculated using EPA eGrid future year emission factors (USEPA, 2018a), EPA's 2016 energy mix for the California-Mexico Power Area (CAMX), and total electricity generation per year provided by the project applicant. The regional CAMX eGrid values were used to estimate energy generation within the region. CAMX energy mix and emission factors were extrapolated out to future years based on RPS goals for the state (33 percent renewable by 2020, 60 percent renewable by 2030, and 100 percent zero-carbon by 2045). Total annual electricity generation was assumed to be 393,000 MWh/year (or 13,750,000 MWh over the life of the project).

Thresholds of Significance

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

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

- a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The adopted *CEQA Guidelines* provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and global climate change impacts. Quantitative significance thresholds for this impact area have not been adopted by the State of California.

Kern County has not developed a quantified threshold of significance for GHG emissions, but a project found to contribute to a net decrease in GHG emissions and found to be consistent with the adopted implementation of the CARB Climate Change Scoping Plan is presumed to have less-than-significant GHG impacts.

In March 2012, EKAPCD adopted an addendum to their *CEQA Guidelines* to address GHG impacts, including quantitative thresholds for determining significance of GHG emissions when 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 MTs or more of CO₂e 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 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 BAU through implementation of one or more of the following strategies:
 - a. Compliance with a Best Performance Standard (BPS);
 - b. Compliance with GHG Offset; and/or
 - c. Compliance with an Alternative GHG Reduction Strategy.

Pursuant to the CEQA thresholds, impacts were evaluated based on whether the project would be consistent with the State's applicable GHG reduction goals, plans, policies, and regulatory requirements. Specifically, those plans and policies established in accordance with AB 32 and the State's RPS program as well as other federal, state, and local policies.

Project Impacts

Impact 4.8-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

The project would directly generate GHG emissions during construction and routine operational and maintenance activities. Three GHGs associated with the project, CO₂, CH₄, and N₂O, would be emitted from off-road equipment use, on-road vehicle operations, concrete batching, electricity due to water use, and Joshua Tree removal and mulching during construction, and periodic off-road equipment use for panel washing, on-road vehicle operations, and electricity due to water use during operations. The estimated GHG emissions from construction and operational activities associated with the project are shown in **Table 4.8-2, Estimated Project Greenhouse Gas Emissions**.

TABLE 4.8-2: ESTIMATED PROJECT GREENHOUSE GAS EMISSIONS

Phase	GHG Emissions (MTCO ₂ e)
Construction	
Total Emissions	12,905
Annualized Emissions ^a	369
Operation	84
Total Emissions	453
EKCAPCD Threshold	25,000
Exceed Threshold?	No

NOTE:

See Appendix D for GHG emissions calculations. Note that the numbers have been rounded to the nearest metric ton and therefore values may not add exactly.

^a Total annual emissions are calculated by dividing total construction over 35 years and adding to the annual emissions operational emissions.

SOURCE: ICF, 2019.

Construction emissions represent 82 percent of total CO₂e emissions, while operational emissions represent 18 percent of total CO₂e emissions. As shown in Table 4.8-2, *Estimated Project Greenhouse Gas Emissions*, the total construction-related CO₂e emissions annualized over a default project lifetime (35 years) is equivalent to 369 MTCO₂e per year of CO₂e. When combined with operations, emissions for the proposed project would total 453 MTCO₂e annually. This value is below the EKAPCD threshold of 25,000 MTs per year of MTCO₂e. Therefore, the project's contribution to climate change would not be cumulatively considerable and the project would not conflict with the State's goal to reduce GHG emissions to 1990 levels by 2020.

Overall, operation of the project would create renewable energy over the expected 35-year life of the project. This energy would displace the GHG emissions which would otherwise be produced by existing

BAU power generation resources (including natural gas, coal, and renewable combustion resources). The project would generate a maximum of 128 MW of electricity at any one time and is expected to generate 393,000 MWh annually. As shown in **Table 4.8-3, Total GHG Emissions Over 35-Year Operational Lifetime**, the project is estimated to displace approximately 19,700 MTCO₂e of emissions annually on average and a total of approximately 689,494 MTCO₂e over its 35-year lifespan. Refer to Appendix D, of this EIR, for further detail on energy displacement calculations, including emission factors (lbs of CO₂e/MWh). Such a reduction would assist in the attainment of the State's goal to reduce GHG emissions. Therefore, operation of the project would result in a substantial net reduction in GHG emissions, even when accounting for the very minimal operational GHG emissions of the project from a relatively small number of periodic maintenance and vehicle trips.

TABLE 4.8-3: TOTAL GHG EMISSIONS OVER 35-YEAR OPERATIONAL LIFETIME

	MTCO ₂ e
Net Annual Emissions	-19,247
Net Total Project Emissions (over the 35-year project lifetime)	-673,928
SOURCE: ICF, 2019.	

Given that the project would result in a net decrease of CO₂e emissions, impacts related to the generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment would be considered less than significant.

Mitigation Measures

Kern County

No mitigation measures would be required.

State Lands Commission

No mitigation measures would be required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

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 gas.

As discussed above, impacts were evaluated based on whether the project would be consistent with the State's applicable GHG reduction goals, plans, policies, and regulatory requirements as well as other federal, state, and local policies, as provided in the following analyses.

CARB Climate Change Scoping Plan

The project would comply with the strategies recommended by the State of California, the EPA, and the Climate Change Scoping Plan, as shown in **Table 4.8-4, 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 the 100 percent RPS by 2045 as well as the other measures listed in **Table 4.8-5, Applicable Scoping Plan Strategies for Project**. These measures would primarily be those actions related to energy efficiency. A discussion of the consistency of the project with these measures is provided below. The project and other similar projects are essential to achieving the RPS. Further, as discussed previously, the project is reasonably expected to displace region-wide and Statewide emissions of GHGs over the expected life of the project.

TABLE 4.8-4: CALIFORNIA GREENHOUSE GAS EMISSION REDUCTION STRATEGIES

Strategy	Project Design/Mitigation to Comply with Strategy
Vehicle Climate Change Standards: AB 1493 (Pavley) required the State to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in September 2004.	These are CARB enforced standards; vehicles that access the project and are required to comply with the standards would comply with these strategies.
Other Light Duty Vehicle Technology: New standards would be adopted to phase in beginning in the 2017 model.	
Heavy-Duty Vehicle Emission Reduction Measures: Increased efficiency in the design of heavy-duty vehicles and an education program for the heavy-duty vehicle sector.	
Diesel Anti-Idling: In July 2004, CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	Project would be subject to State law.
Hydrofluorocarbon Reduction: (1) Ban retail sale of HFC in small cans; (2) Require that only low global warming potential refrigerants be used in new vehicular systems; (3) Adopt specifications for new commercial refrigeration; (4) Add refrigerant leak tightness to the pass criteria for vehicular Inspection and Maintenance programs; (5) Enforce federal ban on releasing HFCs.	This measure applies to consumer products. When CARB adopts regulations for these reduction measures, any products that the regulations apply to would comply with the measures.
Transportation Refrigeration Units (TRU), Off-Road Electrification, Port Electrification: Strategies to reduce emissions from TRUs, increase off-road electrification, and increase use of shore-side/port electrification.	Not applicable
Manure Management: Reduction of volatile organic compounds from confined animal facilities through implementation of control options.	Not applicable

TABLE 4.8-4: CALIFORNIA GREENHOUSE GAS EMISSION REDUCTION STRATEGIES

Strategy	Project Design/Mitigation to Comply with Strategy
Alternative Fuels – Biodiesel Blends: CARB would develop regulations to require the use of one to four percent biodiesel displacement of California diesel fuel.	Not applicable
Alternative Fuels – Ethanol: Increased use of ethanol fuel.	Not applicable
Achieve 50 percent Statewide Recycling Goal: Achieving the State’s 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a Statewide basis. Therefore, a two percent additional reduction is needed.	The project would comply with the 1989 California Integrated Waste Management Act and the California Solid Waste Reuse and Recycling Access Act of 1991, as amended.
Zero Waste – High Recycling: Additional recycling beyond the State’s 50 percent recycling goal.	The project would comply with the 1989 California Integrated Waste Management Act and the California Solid Waste Reuse and Recycling Access Act of 1991, as amended.
Landfill Methane Capture: Install direct gas use or electricity projects at landfills to capture and use emitted methane.	Not applicable
Urban Forestry: A new Statewide goal of planting five million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.	Not applicable
Afforestation/Reforestation Projects: Reforestation projects focus on restoring native tree cover on lands that were previously forested and are now covered with other vegetative types.	Not applicable
Water Use Efficiency: 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions.	Not applicable
Building Energy Efficiency Standards in Place and in Progress: Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).	The project would be consistent with State law.
Appliance Energy Efficiency Standards in Place and in Progress: Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).	The project would be consistent with State law.
Cement Manufacturing: Cost-effective reductions to reduce energy consumption and to lower carbon dioxide emissions in the cement industry.	Not applicable

TABLE 4.8-4: CALIFORNIA GREENHOUSE GAS EMISSION REDUCTION STRATEGIES

Strategy	Project Design/Mitigation to Comply with Strategy
Smart Land Use and Intelligent Transportation Systems (ITS): Smart land use strategies encourage jobs/housing proximity, promote transit oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services.	Not applicable
Smart land use, demand management, ITS, and value pricing are critical elements for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.	Not applicable
Enteric Fermentation: Cattle emit methane from digestion processes. Changes in diet could result in a reduction in emissions.	Not applicable
Green Buildings Initiative: Green Building Executive Order, S-20-04 (CA 2005), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels. Consistent with Mitigation.	Not applicable
California Solar Initiative: Installation of 1 million solar roofs or an equivalent 3,000 megawatts (MW) by 2017 on homes and businesses; increased use of solar thermal systems to offset the increasing demand for natural gas; use of advanced metering in solar applications; and creation of a funding source that can provide rebates over 10 years through a declining incentive schedule.	The project would result in an electric power generating capacity of approximately 128 MW. Therefore, the project would help support and not conflict with this strategy.

TABLE 4.8-5: 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	SF ₆ Leak Reduction Gas Insulated Switchgear
SOURCE: CARB 2014c.		

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 Low Carbon Fuel Standards, 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 up to 100 percent by 2045, pursuant to SB 100. The CPUC estimates that the utilities are on track to meet the RPS requirement of 25 percent renewables by 2016 and are well-positioned to meet the 33 percent requirement by 2020 (California Energy Commission, 2019). Utilities would also be required to meet the updated RPS goals of 60 percent by 2030, and 100 percent by 2045, pursuant to SB 100. A key prerequisite to reaching a target of 100 percent RPS would be to provide sufficient electric transmission lines to renewable resource zones and system changes to allow integration of large quantities of intermittent wind and solar generation. The project proposes a solar array with an electric power generating capacity of approximately 128 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 128 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 using during operation of the project would be used in an efficient manner 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 sulfur hexafluoride (SF₆) from leakage of gas insulated switchgear use in electricity transmission and distribution systems by setting limits on leakage rates and implement best management practices for the recovery and handling of SF₆. Consistent with this action, the project would comply with any and all applicable regulatory requirements for any SF₆ containing switchgear.

KCOG's 2018 RTP

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 4.8-6, *Project Consistency with an Applicable Plan, Policy, or Regulation for GHG Emissions*, below, 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 above under Section 4.8.3, "Regulatory Setting," of this EIR).

Overall, because the main objectives of the project are to assist California Investor-Owned utilities in meeting their obligations under California's RPS Program and assist California in meeting the GHG emissions reduction goal of 1990 level GHG emissions by 2020 as required by AB 32 and the future reduction goal of 40 percent below 1990 levels by 2030, the project would be compliant with the applicable recommended actions of the CARB Climate Change Scoping Plan as well as applicable federal, State and local policies. Specifically, the project would assist the State and regulated utility providers to generate a greater portion of energy from renewable sources consistent with the 2030 and 2045 RPS, including the targets established under SB 100. Therefore, this impact would be less than significant.

Consideration of Mitigation Measures

The Office of the California Attorney General maintains a website with a list of CEQA mitigation measures for global climate change impacts. The Attorney General has listed some examples of types of mitigation measures that local agencies may consider to offset or reduce global climate change impacts from a project. The Attorney General assures that the presented lists are examples and not intended to be exhaustive, but instead provide measures and policies that could be undertaken. Moreover, the measures cited may not be appropriate for every project, so the Attorney General suggests that the lead agency should use its own informed judgment in deciding which measures it would analyze, and which measures it would require, for a given project.

The Attorney General suggests measures that could be undertaken or funded by a diverse range of projects, related to energy efficiency; renewable energy; water conservation and efficiency; solid waste measures; land use measures; transportation and motor vehicles; and carbon offsets. However, most of the suggested measures from the Attorney General's office would not be applicable to the project, since they are more appropriate and applicable measures to reduce long-term operational GHG emissions, and the majority of emission sources from the project are short-term in nature. Long-term operational emissions would be minimal and more than offset by the renewable energy production.

The impacts of GHG emissions on climate change are indirect, climate change is a worldwide phenomenon, and project-level emissions cannot be correlated with specific impacts based on currently available science. However, based on the analysis above, the project would be consistent with California's strategies to reduce greenhouse gas emissions to the levels required by AB 32, as well as state GHG emission reductions post-2020. As a renewable energy project, the project would contribute to achieving the mandated emission reduction targets established by AB 32. Additionally, the project would comply with any applicable forthcoming regulations or requirements adopted under AB 32 or imposed by the State or federal government. Therefore, considering the project's minimal annual emissions and anticipated reduction in overall GHG emissions, the project is not expected to significantly contribute to global warming or climate change.

TABLE 4.8-6: PROJECT CONSISTENCY WITH AN APPLICABLE PLAN, POLICY, OR REGULATION FOR GHG EMISSIONS

Adopted Plan, Policy, or Regulation	Consistency Determination	Project Consistency
Federal		
40 CFR Part 98. Mandatory Reporting of Greenhouse Gases Rule.	Not applicable	The project would have direct CO ₂ 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 ₂ e operating emissions that are well below the 75,000 ton/year rule trigger.
State		
SB 1368. EPS Standard.	Consistent	The project, as a renewable energy generation facility, is determined by rule to comply with the GHG Emission Performance Standard requirements of SB 1368.
SB 351. 50% RPS Standard.	Indirectly consistent	This regulation is applicable to utilities, not generating facilities, but the energy from this project would help enable the utility buying the project's generation to comply with this legislation.
SB 100. 60% Standard by 2030 and 100% by 2045	Indirectly consistent	This regulation is applicable to utilities, not generating facilities, but the energy from this project would help enable the utility buying the project's generation to comply with this legislation.
AB 32. Annual GHG Emissions Reporting	Not applicable	The project, as a solar energy generation project, is exempt from the mandatory GHG emission reporting requirements for electricity generating facilities as currently required by the CARB for compliance with the California Global Warming Solutions Act of 2006 (AB 32 Núñez, Statutes of 2006, Chapter 488, Health and Safety Code Sections 38500 et seq.).
Local		
Kern County General Plan – Air Quality Element Policies Goals and Implementation Measures	Consistent	Air Quality Mitigation Measures would ensure that the project is consistent with the Kern County General Plan Air Quality Element Policies, Goals, and Implementation Measures that will indirectly reduce GHG emissions by reducing fossil fuel combustion.
Willow Springs Specific Plan	Consistent	Air Quality Mitigation Measures would ensure that the project is consistent with the Willow Springs Specific Plan Air Quality Element Policies, Goals, and Implementation Measures that will indirectly reduce GHG emissions by reducing fossil fuel combustion.

Furthermore, as the project would have an electric power generating capacity of approximately 128 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.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

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 adopted *CEQA Guidelines* provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and global climate change impacts. Quantitative significance thresholds for this impact area have not been adopted by the State of California. In addition, Kern County has not adopted quantitative thresholds for determining significance of GHG emissions at the time of this writing. However, EKAPCD has recently adopted an 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 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 CO₂e per year.

Total annual GHG emissions of 453 MTCO₂e for the project are shown in Table 4.8-2, *Estimated Project Greenhouse Gas Emissions*. In addition to these project GHG emissions, other cumulative projects in the vicinity of the project site, identified in Table 3-4, *Cumulative Projects List*, in Chapter 3, *Project*

Description, largely consist of utility-scale alternative power generation (i.e., solar and wind) facilities as well as communication facilities. The nature of these projects is such that, like the project, they would be consistent with the strategies of the Climate Change Scoping Plan. In order to meet the AB 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of the RPS target of 33 percent of California's energy coming from renewable sources by 2020. In order to meet the SB 32 GHG emissions reduction mandate, the 2017 Scoping Plan relies on achievement of the RPS target of 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 renewable by 2030 and 100% carbon-free by 2045. The project and other similar projects are essential to achieving the RPS.

The majority contribution of GHG emissions from the project would be from construction equipment usage during the construction phase including the use of the construction concrete batch plant, motor vehicles trips by employees, haul trucks and maintenance vehicles during project operations. Transportation sources account for 40 percent of California's total GHG emissions (CARB, 2019a). The project's emissions would, therefore, contribute to the increase in emissions in the transportation sector. Construction emissions would be finite and temporary and would cease at the end of construction activities.

Although the project would result in a 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 19,700 MTCO₂e annually over the project's maximum 35-year lifespan (refer to Table 4.8-3, *Displaced GHG Emissions Over 35-Year Operational Lifetime*). Therefore, the total GHG construction emissions that would be 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 operation of the project would provide electric power with negligible operational GHG emissions over the long term when compared to traditional fossil-fueled generation technologies. Thus, the project would not have a cumulatively considerable impact on global climate change, and cumulative impacts would therefore be less than significant.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may be to adopt ordinances or regulations rather than impose conditions on a project-by-project basis. Global climate change is this type of issue. GHG impacts are considered to be exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA, 2008). Causes and effects are not just regional or Statewide, they are worldwide. Because the project's construction and operational GHG emissions would be offset by renewable power generation and no mitigation is required, any other feasible reductions would be accomplished through CARB regulations adopted pursuant to AB 32 and SB 32. Cumulative impacts of the project on global climate change would be less than significant.

Mitigation Measures

Kern County

No mitigation measures would be required.

State Lands Commission

No mitigation measures would be required.

Level of Significance

Kern County

Cumulative impacts would be less than significant.

State Lands Commission

Cumulative impacts would be less than significant.

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Section 4.9

Hazards and Hazardous Materials

4.9.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for hazards and hazardous materials in the study area. It also describes the project's potential impacts on residences and other sensitive receptors that could be exposed to these hazards (other than geologic hazards; see Section 4.7, *Geology and Soils*, of this EIR for discussion on geologic hazards) and presents mitigation measures where applicable. Information in this section is based primarily on the *Phase I Environmental Site Assessment* (PES 2018; Appendix L).

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), noise (also addressed in Section 4.13, *Noise*, of this EIR), wildfires (also addressed in Section 4.18, *Wildfire*, of this EIR). 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 128 MW of electricity through solar power and up to 60 MW of BESS on 2,285 acres of primarily privately-owned land including one parcel owned by the State of California. The facility would include solar panels, gen-tie lines, electrical collection system, battery storage, substation, and an O&M facility. The energy would be ultimately transferred to the Southern California Edison (SCE) Whirlwind Substation.

Existing Setting

The project site consists of approximately 2,285 acres of undeveloped land sparsely covered by desert vegetation. Currently, no structures or other substantive improvements are located on the site (PES 2018). The area surrounding the project site has similarly undeveloped with scattered residential land uses and is surrounded by various solar and wind developments in the immediate vicinity. The closest school to the project site is Tropico Middle School, located approximately 6 miles southeast of the project site in the community of Rosamond. The nearest public airstrip is the Rosamond Airport, located approximately 10 miles to the southeast of the project site. State Route (SR) 14 is located approximately 10 miles east of the project site.

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. As part of the site reconnaissance completed for the Phase I environmental site assessment of the site, no hazardous materials were observed on the project site, only non-hazardous household waste (PES 2018).

Photovoltaic Solar Panels and Cadmium Telluride

The photovoltaic (PV) solar panels that would be installed on the project site are made from polycrystalline silicon or thin-film technology. Polycrystalline silicon PV 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 PV 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.

The thin-film PV solar modules that could be installed on the project site use Cadmium Telluride (CdTe) technology. The semiconductor layer in the 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. Because of 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 one 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 or state law.

Historical Property Use

As part of the Phase I Environmental Site Assessment, historical aerial photographs were reviewed in an attempt to establish a history of land uses at the site (PES 2018). The historical aerial photographs depict the project site as undeveloped land going back to 1995, the oldest aerial photograph reviewed (PES 2018). No additional historical data was available for the site including fire insurance maps, city directories or other environmental reports (PES 2018). Additionally, no known recognized environmental concerns were identified in the Phase I ESA; the project site is not listed on any hazardous materials database (PES 2018).

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 EMF 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.

The power generated from the site would ultimately connect to the existing SCE Whirlwind substation. The alignment is discussed further in more detail in Chapter 3, *Project Description*, of this EIR.

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 cities cover miles of land with structures (e.g., concrete buildings and asphalt roads) that absorb and store significantly more heat during the day than undeveloped earth. Additionally, these cities are filled with energy-consuming devices (e.g., engines, appliances, and heating, air-conditioning, and ventilation [HVAC] systems) that generate waste heat.

Solar arrays consist of PV panels mounted on aluminum and steel support structures. The support structures have little or no exposure to sunlight. The project site would not be covered entirely with solar panels. The amount of the sun’s heat absorbed by a solar panel is similar to the amount of the sun’s heat absorbed by open land. However, solar panels store less heat than the earth because they consist of a thin, lightweight glass that is surrounded by airflow. Therefore, heat dissipates quickly from a solar panel compared with solid earth, which dissipates heat slowly. The project would have energy-consuming devices (e.g., inverters). Therefore, the project would generate marginal amounts of waste heat on the project site. However, there is nothing in the record to date that would indicate that the project would increase ambient air temperatures at or around the project site.

Increased Noise

Noise from construction would be temporary over a period of up to 10 to 14 months for the project. The ambient noise regime in the project vicinity consists of undeveloped, wind farm, and agricultural uses and is a relatively quiet noise environment. The nearest sensitive noise receptors to the project are isolated residential land uses. As discussed in detail in Section 4.12, *Noise*, of this EIR, due to the relatively quiet noise environment in the project area associated with the current undeveloped land uses, temporary or periodic increases in ambient noise levels caused by construction activities could occur at these receptors. However, these increases would be temporary and would not disrupt or otherwise adversely affect residential uses in the area.

Hazardous Materials Transportation

SR-14 is approximately 10 miles east of the site and is the closest significant transportation route. The transportation of hazardous materials within the State of California is subject to various federal, state, and local regulations. It is illegal to transport explosives or inhalation hazards on any public highway that is not designated for that purpose, unless the use of a highway is required to permit delivery or the loading of such materials (California Vehicle Code, Sections 31602 (b) and 32104(a)). The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Information on CHP requirements and regulatory authority is provided in Section 4.9.3, *Regulatory Setting*, below. According to Section 2.5.4 of the Kern County General Plan Circulation Element, SR-14 is designated as an adopted commercial hazardous materials shipping route.

Airports

The project site is located approximately 7 miles west of the Rosamond Skypark, a privately owned and operated residential skypark, and 15 miles northwest of the General William J. Fox Airfield, the closest

publicly owned airport. The project is not located within an Airport Influence Area, per the Kern County Airport Land Use Compatibility Plan.

Fire Hazard Areas

The California Department of Forestry and Fire Prevention requires counties within the state to develop fire protection management plans that address potential threats of wildland fires. The Kern County Wildland Fire Management Plan identifies federal, state, and local responsibility areas for the entire County to facilitate coordination efforts for fire protection services. The project site is sparsely covered by desert vegetation and not within an area identified by the California Department of Forestry and Fire Protection as having substantial or very high fire risk, as determined by the Kern County General Plan or CAL FIRE (Kern County 2009 and CAL FIRE 2007).

4.9.3 Regulatory Setting

Federal

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (USEPA) 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 USEPA's mission is to protect human health and to safeguard the natural environment—air, water, and land—upon which life depends. The USEPA 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 USEPA 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/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the USEPA 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,” were 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 the 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 USEPA 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, or 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 USEPA 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.

State

California Public Utilities Commission General Order 95: Rules for Overhead Electric Line Construction

General Order 95 (GO 95) is the key standard governing the design, construction, operation, and maintenance of overhead electric lines within the State of California. It was adopted in 1941 and updated most recently in 2012. GO 95 includes safety standards for overhead electric lines, including minimum distances for conductor spacing, minimum conductor ground clearance, and standards for calculating maximum sag, electric line inspection requirements, and vegetation clearance requirements. The latter, governed by Rule 35, and inspection requirements, governed by Rule 31.2, are summarized below:

GO 95: Rule 35, Tree Trimming, defines minimum vegetation clearances around power lines. Rule 35 guidelines require 10-foot radial clearances for any conductor of a line operating at 110,000 Volts or more, but at less than 300,000 Volts. This requirement would apply to the proposed 230-kiloVolt (kV) lines.

GO 95: Rule 31.2, Inspection of Lines, requires that lines be inspected frequently and thoroughly for the purpose of ensuring that they are in good condition, and that lines temporarily out of service be inspected and maintained in such condition so as not to create a hazard.

Power Line Hazard Reduction (PRC 4292)

PRC 4292 requires a 10-foot clearance around any tree branches or ground vegetation at the base of power poles carrying more than 110 kV. The firebreak clearances required by PRC 4292 are applicable within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, transformer, or lightning arrester is attached and surrounding each dead-end or corner pole, unless such pole or tower is exempt from minimum clearance requirements by provisions of PRC 4296. Project structures would be exempt primarily because of their design specifications.

Power Line Clearance Required (PRC 4293)

PRC 4293 provides guidelines for line clearance, including a minimum of 10 feet of vegetation clearance around any conductor operating at 110 kV or higher.

Minimum Clearance Provisions (14 CCR 1254)

With respect to minimum clearance requirements, 14 CCR 1254 presents guidelines pertaining to non-exempt utility poles. The project structures would be exempt from the clearance requirements, with the exception of cable poles and dead-end structures.

The firebreak clearances required by 14 CCR 1254 are applicable within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, transformer, or lightning arrester is attached and surrounding each dead-end or corner pole, unless such pole or tower is exempt from the minimum clearance requirements by the provisions of 14 CCR 1255 or PRC 4296. The radius of the cylindroid is 10 feet, which is measured horizontally from the outer circumference of the specified pole or tower, with the height equal to the distance from the intersection of the imaginary vertical exterior surface of the cylindroid to an

intersection with a horizontal plane passing through the highest point at which a conductor is attached to such pole or tower. Flammable vegetation and materials located wholly or partially within the firebreak space would be treated as follows:

At ground level: Remove flammable materials, including ground litter, duff, and dead or desiccated vegetation that would propagate fire.

From 0 to 8 feet above ground level: Remove flammable trash, debris, or other materials, grass, and herbaceous and brush vegetation. Remove all limbs and foliage of living trees up to a height of 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 Hazardous Materials Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. Hazardous materials are defined as unsafe raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste. Health concerns pertaining to the release of hazardous materials, however, are similar to those relating to hazardous waste.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the state hazardous waste management program, which is similar to but more stringent than the federal RCRA program. The act is implemented by regulations contained in Title 26 CCR, which describes the following required aspects for the proper management of hazardous waste:

Identification and classification

Generation and transportation

Design and permitting of recycling, treatment, storage, and disposal facilities

Treatment standards

Operation of facilities and staff training

Closure of facilities and liability requirements

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the California Department of Toxic Substances and Control (DTSC).

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

Senate Bill 1082 (1993) created the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), which requires the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The Program Elements consolidated under the Unified Program are as follows:

Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs (i.e., Tiered Permitting)

Aboveground Petroleum Storage Tank Program

Hazardous Materials Release Response Plans and Inventory Program (i.e., Hazardous Materials Disclosure or “Community-Right-To-Know”)

California Accidental Release Prevention Program (Cal ARP)

Underground Storage Tank (UST) Program

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.

California Environmental Protection Agency

The California Environmental Protection Agency (Cal/EPA) was created in 1991 and unified California’s environmental authority in a single cabinet-level agency and brought the California Air Resources Board, State Water Resource Control Board (SWRCB), Regional Water Quality Control Board, 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 and Control

DTSC, a department of Cal/EPA, is the primary agency in California for regulating hazardous waste, cleaning up existing contamination, and finding ways to reduce the amount of hazardous waste produced in California. DTSC regulates hazardous waste primarily under the authority of the federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

USC 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, U.S. 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

To protect public health and safety, and the environment, the California Office of Emergency Services (OES) is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release, or threatened release, of hazardous materials. The OES requires that basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and health risks) be available to firefighters, public safety officers, and regulatory agencies. Typically, this information should be included in business plans to prevent or mitigate damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code, Article 1 – Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520) and Article 2 – Hazardous Materials Management (Sections 25531 to 25543.3).

Title 19 CCR, Public Safety, Division 2, Office of Emergency Services, Chapter 4 – Hazardous Material Release Reporting, Inventory, and Response Plans, Article 4 (Minimum Standards for Business Plans) establishes minimum statewide standards for hazardous materials business plans. These plans must include the following: (1) a hazardous material inventory in accordance with Sections 2729.2 to 2729.7, (2) emergency response plans and procedures in accordance with Section 2731, and (3) training program information in accordance with Section 2732. Hazardous materials business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the state. Each business will prepare a hazardous materials business plan if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following:

- 500 pounds of a solid substance
- 55 gallons of a liquid
- 200 cubic feet of compressed gas
- A hazardous compressed gas in any amount
- Hazardous waste in any quantity

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

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

Hazardous materials shipments of more than 500 pounds, which would require placards if shipping greater amounts in the same manner

Additional requirements on the transportation of explosives, inhalation hazards, and radioactive materials are enforced by the CHP under the authority of the State Vehicle Code. Transportation of explosives generally requires consistency with additional rules and regulations for routing, safe stopping distances, and inspection stops (14 CCR 6 [1] [1150–1152.10]). Inhalation hazards face similar, more restrictive rules and regulations (13 CCR 6 [2.5] [1157–1157.8]). Transportation of radioactive materials is restricted to specific safe routes.

Local

Construction and operation of the solar facility would be subject to policies and regulations contained within the general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies pertaining to the avoidance of hazards and adverse effects related to hazardous materials. The policies, goals, and implementation measures in the Kern County General Plan related to hazards and hazardous materials that are applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development, such as the project. These measures are not listed below, but as stated in Chapter 2, Introduction, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Kern County General Plan

Chapter 2. Circulation Element

2.5.4 Transportation of Hazardous Materials

Goal

Goal 1: Reduce risk to public health from transportation of hazardous materials.

Policies

Policy 1: The commercial transportation of hazardous material, identification and designation of appropriate shipping routes will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.

Implementation Measure

Measure A: Roads and highways utilized for commercial shipping of hazardous waste destined for disposal will be designated as such pursuant to Vehicle Code Sections 31303 et seq. Permit

applications shall identify commercial shipping routes they propose to utilize for particular waste streams.

Chapter 4. Safety Element

4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint

Implementation Measure

Measure F: The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by the Federal Emergency Management Agency (FEMA), shall be used as a source document for preparation of environmental documents pursuant to the California Environmental Quality Act (CEQA), evaluation of project proposals, formulation of potential mitigation, and identification of specific actions that could, if implemented, mitigate impacts from future disasters and other threats to public safety.

4.9 Hazardous Materials

Implementation Measure

Measure A: Facilities used to manufacture, store, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent onsite hazards from affecting surrounding communities in the event of inundation.

Willow Springs Specific Plan

The entire project is subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in April 2008 and contains goals, policies, and standards that are compatible with those in the Kern County General Plan, but are unique to the specific needs of the Willow Springs Area. The hazards and hazardous materials-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County Department of Planning and Development Services 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

Land Use Element

Goal

Goal 15 To protect community residents from undue hazards and costs associated with road maintenance, slope instability, improper drainage, and inadequate sewage treatment.

Policies

Policy 8 Require developers to clean up any identified hazardous waste sites prior to submittal of any land division or development project.

Safety/Seismic Element

Goals

Goal 15 To protect community residents from undue hazards and costs associated with road maintenance, slope instability, improper drainage, and inadequate sewage treatment.

Mitigation/Implementation Measures

Measure 24 In order to combat the stormwater pollution created by the various land uses the following source control mitigation measures are required:

- a) Periodic cleaning (i.e., street sweeping) of paved areas to remove small particle size sediments with absorbed pollutants caused by uses of the area.
- b) Utilize established Best Management Practices (BMPs) for small on-site control of urban runoff water quality. These measures include infiltration trenches, infiltration basins, water quality inlets, vegetative biofilter, grass swales, and porous pavement.

Kern County Wildland Fire Management Plan

The Kern County Wildland Fire Management Plan documents the assessment of wildland fire situations throughout the State Responsibility Areas within the county. The Kern County Fire Department Wildland Fire Management Plan provides for systematically assessing the existing levels of wildland protection services and identifying high-risk and high-value areas that are potential locations for costly and damaging wildfires. The goal of the plan is to reduce costs and losses from wildfire by protecting assets at risk through focused pre-fire management prescriptions and increasing initial attack success. Based on this assessment, preventive measures are implemented, including the creation of wildfire protection zones.

Kern County Fire Code

Chapter 17.32 of the Kern County Municipal Code details the Kern County Fire Code, which is an adoption of the 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, conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of adequate means of egress, and providing for the issuance of permits and collection of fees therefore (Kern County, 2017).

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan, adopted in March of 2018 is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential

locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2017, included completion of a number of fuel reduction projects, hosted three wildfire safety expos in battalions 1,5, and 7, and the award of three SRA fuel reduction grants for a total of \$500,000. The plan gives an overview of KCFD Battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 1 (Tehachapi) 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 Kern County Fire Department Fire Prevention Division adopted Standard No. 503-507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019. The standard is implemented in accordance with the 2016 CFC and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. The standard outlines installation requirements for photovoltaic ground-mounted and roof-mounted solar panels. The proposed project would mount systems for the modules on steel support posts that would be pile driven into the ground and would therefore comply with the ground mounted requirements of this fire prevention standard. Ground mounted solar panel requirements of this standard include water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD, 2019c).

Kern County Department of Environmental Health Services Division

The County of Kern Environmental Health Services Department is the CUPA for the project area, which provides site inspections of hazardous materials programs (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.

4.9.4 Impacts and Mitigation Measures

Methodology

The methodology for determining impacts relating to hazardous materials focuses on (1) the potentially significant impacts related to the routine transport, use, or disposal of hazardous materials and the release of hazardous materials into the environment; and (2) proposed project components that could result in environmental contamination.

The methodology for determining impacts relating to wildland fires focuses on the fire severity at the project site and the surrounding areas based on existing state and local maps and land characteristics.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the CEQA Guidelines, to determine if a project could potentially have a significant adverse effect related to hazards and hazardous materials.

A project could 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 involves handling hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.
- d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- e. For a project located within 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 interferes 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. Implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the project exceed the following qualitative threshold.

The presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors:

- i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment.
- ii. Are associated with design, layout, and management of project operations.
- iii. Disseminate widely from the property.
- iv. Cause detrimental effects on the public health or well-being of the majority of the surrounding population.

Kern County determined in the Notice of Preparation/Initial Study (NOP/IS) that the following environmental issue areas would result in no impacts or less-than-significant impacts and, therefore, are scoped out of this EIR. Refer to Appendix A of this EIR for a copy of the NOP/IS and additional information regarding these issue areas:

- d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- a. For a project located within the adopted Kern County Airport Land Use Compatibility Plan and would result in a safety hazard for people residing or working in the project area.
- b. Impair implementation of, or physically interferes with, an adopted emergency response plan or emergency evacuation plan.
- h. Implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the project exceed the following qualitative threshold.

The presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors:

- i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment.
- ii. Are associated with design, layout, and management of project operations.
- iii. Disseminate widely from the property.
- iv. Cause detrimental effects on the public health or well-being of the majority of the surrounding population.

Project Impacts

Impact 4.9-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Construction

Construction of the project, including the solar facilities and associated improvements (e.g., energy storage, access roads), would not involve the routine transport, use, or disposal of significant (i.e., bulk) quantities of hazardous materials. Construction would however, require the use of limited quantities of hazardous materials such as fuels, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, dust palliative, pesticides, herbicides, and welding materials/supplies. Most of the hazardous waste generated by the project would occur during the temporary 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. Any hazardous materials that would be transported to the project site during construction, and any hazardous materials that are produced as a result of the construction of the project would be collected and transported away from the site in accordance with best management practices (BMPs) (see further discussion of BMP requirements in Section 4.10, *Hydrology and Water Quality*, of this EIR). During construction of the project, material safety data sheets for all applicable hazardous materials present at the site would be made readily available to on-site personnel. During construction of the facilities, 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.

Fuels and lubricants used on field equipment would be subject to the Material Disposal and Solid Waste Management Plan, and SPCC plan and other measures to limit releases of hazardous materials and wastes. 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 all oils, lubricants, and spent filters would be performed in accordance with all applicable regulations including the requirements of licensed receiving facilities. Overall, the relatively limited use of hazardous materials during construction would be controlled through compliance with applicable regulations and would result in a less-than-significant impact.

Operation

O&M activities associated with a PV solar facility are relatively minor when compared to other land uses such as conventional power plants, and would require limited use of hazardous materials. Any hazardous materials that would be used would be stored on-site and in designated areas. The site would be fenced to prevent public access to hazardous materials and the PV panels.

Operational activities are limited to monitoring plant performance, conducting scheduled maintenance for on-site electrical equipment, and responding to utility needs for plant adjustment. No heavy equipment would be 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 are expected to have a 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. Mitigation Measure MM 4.9-1 would ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to workers or the public.

The PV modules that would be installed on the project site use 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 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 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 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 modules do not generate any emissions of CdTe (Fthenakis 2003). 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.

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 in accordance with the hazardous materials business plan required by Mitigation Measure MM 4.9-1.

Project operations could require the use of hazardous materials at the energy storage facility which would 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. There are no designated routes for the transport of hazardous materials located on or immediately adjacent to the project site; the closest route is SR-14. In addition, implementation of Mitigation Measure MM 4.9-1, which requires the preparation of a hazardous materials business plan that would describe proper handling, storage, transport, and disposal techniques and methods to be used to avoid spills and minimize impacts in the event of a spill, would 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 the project would ultimately connect into the existing infrastructure (i.e., the Whirlwind substation). In addition, the project would not construct sensitive uses under the existing lines. 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 and Disposal

During the decommissioning and disposal 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, transformer pads, telecommunications equipment and other 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 another facility.

Once the solar modules have been removed, the racks would be disassembled, and the structures supporting the racks would be removed. All other associated site infrastructure would be removed, including fences, concrete pads that may support the inverters, transformers and related equipment, and underground conduit/electrical wiring. The fence and gate would be removed, and all materials would be recycled to the extent feasible. The area would be thoroughly cleaned and all debris removed. As discussed above, most panel materials would be recycled, with minimal disposal to occur in landfills in compliance with all applicable laws. The PV module manufacturer would likely provide CdTe module collection and recycling services. In any case, 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.

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.

As described in Section 4.17, *Utilities and Service Systems*, Mitigation Measure MM 4.17-1 requires 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 prior to issuance of building permits.

Mitigation Measures

Kern County

MM 4.9-1: Prior to the issuance of grading or building permits, the project proponent shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval.

1. The hazardous materials business plan shall:
 - a. Delineate hazardous material and hazardous waste storage areas.
 - b. Describe proper handling, storage, transport, and disposal techniques.
 - c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill.

- d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction.
 - e. Establish public and agency notification procedures for spills and other emergencies, including fires.
 - f. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.
2. The project proponent 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.
 3. A copy of the approved hazardous materials business plan shall be submitted to the Kern County Planning and Natural Resources Department.

Implement Mitigation Measure MM 4.17-1.

State Lands Commission

MM 4.9-1: Prior to the issuance of grading or building permits, the project proponent shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval.

1. The hazardous materials business plan shall:
 - a. Delineate hazardous material and hazardous waste storage areas.
 - b. Describe proper handling, storage, transport, and disposal techniques.
 - c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill.
 - d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction.
 - e. Establish public and agency notification procedures for spills and other emergencies, including fires.
 - f. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.
2. The project proponent 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.
3. A copy of the approved hazardous materials business plan shall be submitted to the Kern County Planning and Natural Resources Department.

Implement Mitigation Measure MM 4.17-1.

Level of Significance after Mitigation

Kern County

With the implementation of Mitigation Measures MM 4.9-1 and MM 4.17-1, impacts would be less than significant.

State Lands Commission

With the implementation of Mitigation Measures MM 4.9-1 and MM 4.17-1, 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.

Construction

According to the California Department of Conservation – Division of Oil, Gas and Geothermal Resources, which as of January 1, 2020 will be known as the Geologic Energy Management Division (CalGEM), the project site is not located within a known oil production field, nor does the project site have a known active or abandoned oil wells. As a result, construction and development of the project is unlikely to expose employees or construction workers to the dangers associated with operating a facility near an oil well.

Potential impacts that may result from construction of the project includes the accidental release of materials, such as fuels, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, dust palliative, herbicides, and welding materials/supplies. Implementation of Mitigation Measure MM 4.9-1, which would provide methods to be used to avoid spills and minimize impacts in the event of a spill by providing procedures for handling and disposing hazardous materials as well as public and agency notification procedures for spills and other emergencies including fires, would reduce this impact to a less-than-significant level.

Despite the surrounding solar and wind project and the relatively open spaces in the site vicinity, construction workers and nearby sensitive receptors could be exposed to pollutant emissions during construction of the project, resulting in a potentially significant impact. An adverse risk related to exposure to hazardous materials could result from the installation and use of transformers, grading of the site, the application of herbicides, or other construction processes if hazardous materials are not used appropriately during construction. Implementation of Mitigation Measure MM 4.9-2, which regulates the use of hazardous materials, as provided below would reduce impacts related to upset and accident conditions to a less-than-significant level.

Operation

Operation of the PV modules and inverters would produce no hazardous waste. Each enclosed transformer would include mineral oil, but the mineral oil contained in each transformer does not normally require replacement, and mineral oil disposal would be in accordance with all applicable federal, state, and local laws and regulations.

As stated in the environmental setting above, it has been demonstrated that standard operation of polycrystalline silicon PV 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 at an appropriate 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 panel does not pose a threat to residences in the vicinity of the site for these reasons.

CdTe releases are unlikely to occur from accidental breakage of or fires involving the PV 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 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. 2011)

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 systems, and these fires tend to be short-lived due to the thinness of grass fuels (additionally, the project site does not contain grasslands as it is sparsely covered by desert vegetation). As a result, these fires are unlikely to expose PV modules to prolonged fire conditions or to temperatures high enough to volatilize CdTe, which has a melting point of 1,041 °C. Moreover, even if a desert wildfire could reach that temperature, the actual CdTe emissions from a PV module would be insignificant (~0.04 percent) due to encapsulation in the molten glass matrix (Fthenakis et al. 2003).

Potential CdTe emissions from broken PV modules exposed to precipitation are also unlikely. Based on warranty return data, the breakage rate of CdTe PV modules is low, 1 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 module into the environment, and CdTe has an extremely low solubility in water.

The CdTe PV modules do not pose a threat to nearby residences. The use of CdTe PV modules at the project site would not result in human or aquatic exposure of cadmium. A recent 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.

In addition, the hazardous materials that would be present in the energy storage facility would be contained within specifications that follow applicable federal state and local requirements. OSHA requirements call for the inclusion of appropriate ventilation, acid resistant materials, and presence of spill protection supplies.

Removal and/or maintenance of vegetation may require pesticide and herbicide use during both construction and operation but would be limited because of the slow growth of desert vegetation and its low density. If not handled properly, use of these products could create a hazard to the public (construction

workers, maintenance employees, and nearby residences), resulting in a potentially significant impact. Mitigation Measure MM 4.9-2 would reduce impacts related to use of pesticides and herbicides to a less-than-significant level.

The project would not involve the routine transport, use, or disposal of hazardous materials or wastes. The closest designated route for the transport of hazardous materials is SR 138, which is located 8 miles south of the project site. Adherence to regulations and standard protocols during the storage, transportation, and usage of any incidental hazardous materials used during O&M activities would minimize and avoid the potential for significant impacts.

Overall, adherence to regulations and standard protocols during the storage, transportation, and usage of any hazardous materials, and implementation of Mitigation Measure MM 4.9-2 would minimize or reduce potential impacts to a less-than-significant level.

Decommissioning and Disposal

The decommissioning and disposal process is described under Impact 4.9-1, above. Most panel materials would be recycled to the extent feasible, with minimal disposal to occur in landfills in compliance with all applicable laws. The PV module manufacturer provides CdTe module collection and recycling services. In any case, 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. Batteries within the energy storage facility would also be recycled to the extent feasible, with minimal landfill disposal.

Mitigation Measure MM 4.17-1 requires 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 prior to issuance of building permits.

Mitigation Measures

Kern County

Implement Mitigation Measures MM 4.9-1, MM 4.17-1 and:

MM 4.9-2: The project proponent shall continuously comply with the following:

- a) The construction contractor or project personnel shall use herbicides that are approved for use in California, and are appropriate for application adjacent to natural vegetation areas (i.e., non-agricultural use). Personnel applying herbicides shall have all appropriate state and local herbicide applicator licenses and comply with all state and local regulations regarding herbicide use.
- b) Herbicides shall be mixed and applied in conformance with the manufacturer's directions.

- c) The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife.
- d) Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water.
- e) Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated.

State Lands Commission

Implement Mitigation Measures MM 4.9-1, MM 4.17-1 and:

MM 4.9-2: The project proponent shall continuously comply with the following:

- a) The construction contractor or project personnel shall use herbicides that are approved for use in California, and are appropriate for application adjacent to natural vegetation areas (i.e., non-agricultural use). Personnel applying herbicides shall have all appropriate state and local herbicide applicator licenses and comply with all state and local regulations regarding herbicide use.
- b) Herbicides shall be mixed and applied in conformance with the manufacturer's directions.
- c) The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife.
- d) Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water.
- e) Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated.

Level of Significance after Mitigation

Kern County

With the implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.17-1, impacts would be less than significant.

State Lands Commission

With the implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.17-1, impacts would be less than significant.

Impact 4.9-3: The project would emit hazardous emissions or involves handling hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.

The project site is not located within 0.25 miles of any school. The nearest school to the project site is the Tropico Middle School, located approximately 6 miles southeast of the project site in the community of Rosamond. Therefore, there would be no impact related to hazardous emissions within 0.25 miles of a school.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts are considered less than significant.

State Lands Commission

Impacts are considered less than significant.

Impact 4.9-4: The project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

The project site is not within an area of high or very high fire hazard, as determined by the Kern County General Plan or CAL FIRE (CAL FIRE 2007). There is sparse desert vegetation on-site and site preparation would involve the removal/reduction of much of the on-site vegetation. Natural vegetation may be maintained in areas where it does not interfere with project construction or the health and safety of on-site personnel, but across the site there would be a reduction in the available fuel load, which is already limited. The project would also include a battery storage component which have a very low likelihood of producing a fire (generally a result of thermal runaway event from an internal short with cascading events) and a very low likelihood of catching fire (due to the non-flammable material that are used for the structure and absence of flammable vegetation or other materials nearby). However, battery systems still have the possibility of catching fire under the right circumstances (which are rare) or being damaged by fire and may generate fumes and gases that are extremely corrosive in those instances. Dry chemicals, carbon dioxide (CO₂), and foam are the preferred methods for extinguishing a fire involving batteries as water is generally not useful in extinguishing battery fires. As also discussed further in Section 4.14, *Public Services*, of this EIR, the project proponent would implement Mitigation Measure MM 4.14-1, which would require the preparation and submittal of a Fire Safety Plan to the County and the County Fire Protection District for

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 OSHA's standard of fire prevention, 29 CFR 1910.39. The Fire Safety Plan would address fire hazards of the different components of the project, including the energy storage facility, and would include BMPs to reduce the potential for fire and extinguishment techniques if a fire were to occur.

The project site is not adjacent to urbanized areas; however, there are isolated residences in proximity to the project site. While the project is not anticipated to significantly increase the risk of wildfire, Mitigation Measure MM 4.14-1 would be implemented which includes the development and implementation of a fire safety plan for construction and operation of the project. With mitigation, potential impacts from wildfire would be reduced to a less-than-significant level.

See also Section 4.18, *Wildfire*, of this EIR for additional discussion of wildfire issues.

Mitigation Measures

Kern County

Implement Mitigation Measure MM 4.14-1.

State Lands Commission

Implement Mitigation Measure MM 4.14-1.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measure MM 4.14-1, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.14-1, 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 and wind energy production facilities, are proposed throughout Kern County and northern Los Angeles County. Many are located, like the project site, in the Antelope Valley and Mojave Desert. As shown in Table 3-5, *Cumulative Project List*, approximately 8 solar energy projects are proposed within Kern County. 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. Hazards and exposure risks related to hazards and hazardous materials are typically localized in nature since they tend to be related to isolated events and on-site existing hazardous conditions and/or hazards caused by the project's construction or operation. A geographic scope of a 0.25-mile-radius area also coincides with the distance used to determine whether hazardous emissions or materials would have a significant impact upon an existing or proposed school, as discussed above.

Impacts regarding the handling, use, and/or storage of hazardous materials would be considered project specific and would not cumulatively contribute with other cumulative projects because of the relatively low quantities involved in the proposed project and the majority of other cumulative projects as well as the inherent variance in timing of handling of hazardous materials and wastes. An accident involving a hazardous material release during project construction or operation through upset or accident conditions including site grading and the use and transport of petroleum-based lubricants, solvents, fuels, batteries, herbicides, and pesticides to and from the project site would be location specific. In general, accidental releases and upset conditions tend to be localized events that do not combine with other projects especially considering how spread out the cumulative projects are. Therefore, the project would not contribute to cumulative impacts from accidental releases or discovery of hazardous materials and/or wastes. Conformance with existing state and county regulations, as well as project safety design features and the implementation of Mitigation Measures MM 4.9-1 and MM 4.9-2 identified above would further reduce cumulative impacts. In addition, implementation of appropriate safety measures during construction of the project, as well as other cumulative projects, would reduce the impact to a level that would not contribute to cumulative effects. Given the minimal risks of hazards at the project site, cumulative impacts are unlikely to occur. Therefore, impacts would not be cumulatively significant.

Hazardous materials to be used during decommissioning and removal activities are of low toxicity and would consist of fuels, oils, and lubricants. Because these materials are required for operation of construction vehicles and equipment, BMPs would be implemented to reduce the potential for or exposure to accidental spills or fires involving the use of hazardous materials. Impacts from minor spills or drips would be avoided by thoroughly cleaning up minor spills as soon as they occur. While foreseeable projects have the potential to cause similar impacts, it is assumed these projects would also implement similar BMPs. Conformance with existing state and county regulations, as well as implementation of Mitigation Measures MM 4.9-1 and MM 4.9-2, MM 4.14-1, of Section 4.14, *Public Services* (Fire Safety Plan) and MM 4.17-1, of Section 4.17, *Utilities and Service Systems* (recycling of debris and waste) would further reduce the potential for cumulative impacts. In addition, implementation of appropriate safety measures during construction of the project, as well as any other cumulative project, would reduce the impact to a level that would not contribute to cumulative effects. Therefore, impacts related to hazardous materials would not be cumulatively significant.

The project site is not located within any airport land use plans or within close proximity to any private airstrips, and therefore would not have the potential to combine with impacts from other projects to pose a hazard to air navigation. The project would be in compliance with county zoning requirements as required.

Mitigation Measures

Kern County

Implement Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.14-1, and MM 4.17-1.

State Lands Commission

Implement Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.14-1, and MM 4.17-1.

Level of Significance after Mitigation**Kern County**

With the implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.14-1, and MM 4.17-1, impacts would be reduced to less than significant.

State Lands Commission

With the implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.14-1, and MM 4.17-1, impacts would be reduced to less than significant.

4.10.1 Introduction

This section of the EIR describes the hydrological environmental and regulatory settings, addresses potential impacts of the project on hydrology and water quality, and discusses mitigation measures to reduce impacts, where applicable. The information in this section is based on numerous available sources, as well as the Final Hydrology Assessment Technical Report (Appendix M; Watearth 2019a) and the Water Supply Assessment (Appendix N, Watearth 2019b) prepared for the project.

4.10.2 Environmental Setting

Regional Setting

The project site is located in the northwestern region of the Mojave Desert 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 none of the precipitation that falls within the valley finds its way to the ocean. The project site is located in the Western Antelope Valley, a desert region that is formed from the triangular formation of the Garlock and San Andreas faults.

Antelope Valley Hydrologic Unit (No. 626.00-626.80)

The project site is located in the Antelope Valley Hydrologic Unit (HU) in the southwestern corner of the Regional Water Quality South Lahontan Hydrologic Region. The Antelope Valley HU covers approximately 1.5 million acres (2,400 square miles) in the southwestern part of the Mojave Desert in southern California. The Antelope Valley HU is mostly located in Los Angeles County and Kern County, with a small part in San Bernardino County. Bounded by the San Gabriel Mountains to the south and southwest, the Tehachapi Mountains to the northwest, and a series of hills and buttes that generally follow the San Bernardino County Line to the east, the Antelope Valley HU forms a well-defined triangular point at its western edge. The Antelope Valley HU elevation ranges from 2,300 to 3,500 feet above mean sea level (amsl).

The Antelope Valley HU is geographically unique because it does not outlet to the Pacific Ocean and is considered a closed system. Numerous streams originating in the mountains and foothills either infiltrate into the groundwater basin, evaporate, or flow across the valley floor to eventually pond in the dry lakes near the community of Rosamond and Edwards Air Force Base. The Antelope Valley HU generally lacks defined natural and improved channels outside of the foothills, and is subject to unpredictable sheet flow patterns. In general, groundwater flows northeasterly from the mountain ranges to the dry lakes. Due to the relatively impervious nature of the dry lake soil and high evaporation rates, water that collects on the dry lakes eventually evaporates rather than infiltrating into the groundwater.

Within the Antelope Valley HU, the project site is located in the Willow Springs Hydrologic Area (HA). The drainage features associated with the Willow Springs HA are minor surface waters and washes that are not well defined. Much of the runoff occurs as sheet flow. The Willow Springs Sub-Watershed is a closed basin inside of the Antelope Valley; therefore, there is no connection to the ocean and any precipitation or surface water is transferred via ephemeral streams to existing playas. The closest playa to the project site is Rosamond Lake to the southeast of the project site, approximately 10 miles from the proposed project (Watearth, 2019a).

Climate

The climate of the Mojave Desert Basin is characterized by hot, dry summers and cold winters with relatively low annual precipitation. Average temperatures recorded in the community of Mojave range from a low of 33° Fahrenheit (F) in December to highs of 98° F in July and August (Western Regional Climate Center 2019). The local climate is typical of the high desert areas of California. Winter nights often drop below freezing, and snow is not uncommon. **Table 4.10-1, *Average Monthly Temperatures and Precipitation for the Antelope Valley, Kern County***, summarizes average temperatures and precipitation for Mojave, CA, which is located approximately 15 miles northeast of the project site, but which can be considered typical of the Antelope Valley, including the project area.

TABLE 4.10-1: AVERAGE MONTHLY TEMPERATURES AND PRECIPITATION FOR THE ANTELOPE VALLEY, KERN COUNTY

Station	Elevation	Average Maximum Temperature	Average Minimum Temperature	Average Annual Precipitation
Mojave, CA (Coop ID 045756)	2,735 feet	75.8°F	49.9°F	5.93 in/yr
Mojave 2 ESE, CA (Coop ID 045758)	2,680 feet	76.5°F	47.8°F	6.34 in/yr

SOURCE: Western Regional Climate Center 2019.

Site Hydrology

Surface Hydrology and Drainage

The project site is undeveloped desert land that is relatively flat, sloping gently from northwest to southeast (Watearth 2019a). The topography is such that runoff will not be directed towards Rosamond Lake as most rainfall infiltrates into the immediate surrounding soils quickly (Watearth, 2019a). The site is located at the base of the Tehachapi Mountains on an alluvial fan where runoff flows from the upper mountain regions across the alluvial fan as sheet flow in drainage channels that are not well defined due to low precipitation and sporadic flows. According to the Hydrology Assessment prepared for the site, a draft jurisdictional waters report was reviewed and noted potentially jurisdictional waters were present at the site as episodic ephemeral drainages with poorly or no defined bed, bank, or channel (see further discussion in Section 4.4, *Biological Resources*) (Watearth, 2019a).

Floodplains

The entire project site is located within the Federal Emergency Management Agency's (FEMA's) Flood Zone A which is defined as an area subject to the one percent annual chance for flooding. With this classification, there are no specific requirements for non-occupied structures and base flood elevations are not calculated (Watearth, 2019a).

Soil Types and Erosion

Soil types were taken from the published survey by the National Resources Conservation Service (NRCS) Soils Survey for the Antelope Valley Area. According to the geotechnical report, the USDA soil units identified on the project site include the Cajon loamy sand, Hesperia fine sandy loam, DeStazo sandy loam, Rosamond loam, Adelanto loamy sand, Hanford coarse sandy loam, and Ramona sandy loam (ICF 2019). These soils are well drained or excessively drained loams with moderate to high infiltration rates. Sandy soils typically have low cohesion and have a relatively higher potential for erosion when exposed to wind or moving water. Surface soils with higher amounts of clay tend to be less erodible as the clay acts as a binder to hold the soil particles together.

Groundwater Resources

The project area is situated within the Antelope Valley Groundwater Basin, which underlies an extensive alluvial valley in the western Mojave Desert. The elevation of the valley floor ranges from 2,300 to 3,500 feet amsl. The basin is bounded on the northwest by the Garlock fault zone at the base of the Tehachapi Mountains, approximately 2 miles from the project site, and on the southwest by the San Andreas fault zone at the base of the San Gabriel Mountains, approximately 8 miles from the project site. The basin is bounded on the east by ridges, buttes, and low hills that form a surface and groundwater drainage divide and on the north by Fremont Valley Groundwater Basin at a groundwater divide approximated by a southeastward-trending line from the mouth of Oak Creek through Middle Butte to exposed bedrock near Gem Hill, and by the Rand Mountains farther east (DWR 2004).

The basin is divided by the U.S. Geological Survey (USGS) into 12 subunits based on differential ground flow patterns, recharge characteristics, and geographic location, as well as by controlling geologic structures. The basin's 12 subunits include Finger Buttes, West Antelope, Neenach, Willow Springs, Gloster, Chaffee, Oak Creek, Pearland, Buttes, Lancaster, North Muroc, and Peerless. The USGS describes groundwater levels in these subunits as having rebounded from previous draw-down levels in some areas due to the importation of State Water Project water to the Antelope Valley region, and declined in others due to increased groundwater pumping.

Groundwater in the basin is used for both public water supply and local irrigation. The main aquifers in the basin are gravels, sands, silts, and clays, all derived from granitic parent material from the surrounding mountains. Public-supply wells in the basin are anywhere from 360 to 700 feet deep. Groundwater recharge in the Antelope Valley is primarily runoff from surrounding mountains, as well as direct infiltration from irrigation and septic systems.

As described above, the project site is located within the Willow Springs subunit of the basin, northeast of the Neenach subunits, which reportedly has groundwater wells that draw from depths ranging between 200 to 300 feet below surface level. Based on well data reviewed by the Watermaster Engineer for Antelope

Valley, groundwater level data in the Willow Springs subunit was sparse but showed no significant change in water levels between 2018 and 2019 (Todd Engineers 2019). Groundwater in the site vicinity appears to flow to the southeast toward Rosamond Lake. Water supply for the project would be sourced from a local water purveyor that primarily accesses groundwater from within the Antelope Valley Groundwater Basin (Watearth, 2019b).

According to the USGS, groundwater extraction in the basin prior to 1972 provided more than 90 percent of the total water supply in Antelope Valley. Some areas experienced groundwater level declines of up to 200 feet and land subsidence of more than 6 feet in some areas. The groundwater basin is primarily recharged by deep percolation of precipitation and runoff from the surrounding mountains and hills. Other sources of recharge to the basin include artificial recharge and return flows from agricultural irrigation and urban irrigation.

To correct the state of overdraft, an adjudication process was settled on December 23, 2015 (see additional discussion below under *Regulatory Setting*). As a result of the court decision, the court directed appointment of a Watermaster (a five-member board) to monitor the groundwater basin in accordance with court requirements. The Watermaster Board was tasked with arriving at a unanimous decision to hire the engineer to serve as Watermaster Engineer (Todd Groundwater) and assign pumping allocations per user that will be metered and monitored on an annual basis. It is expected that there will be no charge for pumpage that does not exceed the assigned allocation. Pumping in excess of the allocation will require payment of a replenishment fee to the Watermaster for acquisition of additional supplies.

4.10.3 Regulatory Setting

Federal

Clean Water Act

The Clean Water Act (CWA) (33 U.S. Code Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA required states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain nonpoint-source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). The project site is within the Lahontan RWQCB. Projects that disturb 1 or more acres, including the proposed project, are required to obtain NPDES coverage under the Construction General Permits.

Section 401, Water Quality Certification. Section 401 of the CWA requires that, prior to issuance of any federal permit or license, any activity, including river or stream crossing during road, pipeline, or transmission line construction, which may result in discharges into waters of the U.S., must be certified by the state, as administered by the RWQCB. This certification ensures that the proposed activity does not violate state and/or federal water quality standards.

Section 402, National Pollutant Discharge Elimination System. Section 402 of the CWA authorizes the State Water Resources Control Board (SWRCB) to issue a NPDES General Construction Storm Water

Permit (Water Quality Order 2009-0009-DWQ), referred to as the “General Construction Permit.” Construction activities can comply with and be covered under the General Construction Permit provided that they:

Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies best management practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off site into receiving waters.

Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation.

Perform inspections of all BMPs.

NPDES regulations are administered by the Lahontan RWQCB. Projects that disturb 1 or more acres, including the proposed project, are required to obtain NPDES coverage under the Construction General Permit.

Section 404, Discharge of Dredged or Fill Materials. Section 404 of the CWA establishes programs to regulate the discharge of dredged and fill material in waters of the U.S., including wetlands. For purposes of section 404 of the CWA, the limits of non-tidal waters extend to the ordinary high water line, defined as the line on the shore established by the fluctuation of water and indicated by physical characteristics, such as natural line impressed on the bank, changes in the character of the soil, and presence of debris. When an application for a Section 404 permit is made the applicant must show it has:

Taken steps to avoid impacts to wetlands or waters of the U.S. where practicable;

Minimized unavoidable impacts on waters of the U.S. and wetlands; and

Provided mitigation for unavoidable impacts.

Section 404 of the CWA requires a permit for construction activities involving placement of any kind of fill material into waters of the U.S. or wetlands. A water quality certification pursuant to Section 401 of the CWA is required for Section 404 permit actions. If applicable, construction would also require a request for water quality certification (or waiver thereof) from the 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 U.S. Environmental Protection Agency for review and approval. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, states are required to prioritize waters and watersheds for future development of total maximum daily loads (TMDL) requirements. The SWRCB and RWQCBs have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to develop TMDL requirements.

National Flood Insurance Act

FEMA is responsible for managing the National Flood Insurance Program (NFIP), which makes federally backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.

The NFIP, established in 1968 under the National Flood Insurance Act, requires that participating communities adopt certain minimum floodplain management standards, including restrictions on new development in designated floodways, a requirement that new structures in the 100-year flood zone be

elevated to or above the 100-year flood level (known as base flood elevation), and a requirement that subdivisions be designed to minimize exposure to flood hazards.

To facilitate identifying areas with flood potential, FEMA has developed Flood Insurance Rate Maps (FIRMs) that can be used for planning purposes, including floodplain management, flood insurance, and enforcement of mandatory flood insurance purchase requirements. Kern County is a participating jurisdiction in the NFIP and, therefore, all new development must comply with the minimum requirements of the NFIP.

State

Department of Water Resources

The major responsibilities of the California Department of Water Resources (DWR) include preparing and updating the California Water Plan to guide development and management of the state's water resources; planning, designing, constructing, operating, and maintaining the State Water Resources Development System; regulating dams; providing flood protection; assisting in emergency management to safeguard life and property; educating the public; and serving local water needs by providing technical assistance. In addition, DWR cooperates with local agencies on water resources investigations, supports watershed and river restoration programs, encourages water conservation, explores conjunctive use of ground and surface water, facilitates voluntary water transfers, and, when needed, operates a state drought water bank.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.), passed in 1969, requires protection of water quality by appropriate designing, sizing, and construction of erosion and sediment controls. The Porter-Cologne Act established the SWRCB and divided California into nine regions, each overseen by a RWQCB. The SWRCB is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies and has delegated primary implementation authority to the nine RWQCBs. The Porter-Cologne Act assigns responsibility for implementing CWA Sections 401 through 402 and 303(d) to the SWRCB and the nine RWQCBs.

The Porter-Cologne Act requires the development and periodic review of water quality control plans (basin plans) that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters, provide the technical basis for determining waste discharge requirements, identify enforcement actions, and evaluate clean water grant proposals. The basin plans are updated every 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 storm water 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 2016).

Streambed Alteration Agreement (California Fish and Game Code)

Section 1602 of the California Fish and Game Code protects the natural flow, bed, channel, and bank of any river, stream, or lake designated by the California Department of Fish and Wildlife (CDFW) in which there is, at any time, any existing fish or wildlife resources, or benefit for the resources. Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state, and requires any person, state or local governmental agency, or public utility to notify the CDFW before beginning any activity that will:

Substantially divert or obstruct the natural flow of any river, stream or lake;

Substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or

Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

During final engineering and design of a project, if it is determined that any project-related actions would have the potential to necessitate a streambed alteration agreement, such an agreement would be prepared and implemented prior to construction of the project, thus maintaining compliance with Section 1602 of the California Fish and Game Code. A streambed alteration agreement is required if the CDFW determines the activity could substantially adversely affect an existing fish and wildlife resource. The agreement includes measures to protect fish and wildlife resources while conducting the project. The CDFW must comply with CEQA before it may issue a final lake or streambed alteration agreement; therefore, the CDFW must wait for the lead agency to fully comply with CEQA before it may sign the draft lake or streambed alteration agreement, thereby making it final.

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for hydrology and water resources applicable to the proposed project are provided below. Policies, goals, and implementation measures in the General Plan that are not specific to development are not listed below. However, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

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 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.
- Policy 10: The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.
- Policy 11: Protect and maintain watershed integrity within Kern County.

Implementation Measures

- Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.
- Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.
- Measure J: Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.
- Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.9 Resources

Policy

- Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.

1.10 General Provisions

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 (CEQA), to prevent the degradation of the watershed to the extent practical.

Implementation Measure

Measure Y: Promote efficient water use by utilizing measures such as: (i) Requiring water-conserving design and equipment in new construction; (ii) Encouraging water-conserving landscaping and irrigation methods; and (iii) Encouraging the retrofitting of existing development with water conserving devices.

Willow Springs Specific Plan

The entire project is subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in April 2008 and contains goals, policies, and standards that are compatible with those in the Kern County General Plan, but are unique to the specific needs of the Willow Springs Area. The hydrology and water quality-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County Department of Planning and Development Services 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

Public Facilities Element

Goal

Goal 3 To restrict, if possible, any further and/or unnecessary drawdown of the water table within the plan area.

Policy

Policy 21 The projects shall comply with all applicable Kern County code and ordinance requirements for construction, access, water mains, fire flows, and fire hydrants.

Safety/Seismic Element

Goals

Goal 7 Minimize damage to public facilities and utilities, such as water and gas mains, electric, telephone, and sewer lines, streets, and bridges located in areas of special flood hazard.

Goal 9 Comply with the requirements of the National Flood Insurance Program Regulations, Parts 59 and 60 of Title 44 of the Code of Federal Regulations.

Policy

Policy 1 New development within the 100-year floodplain shall be regulated in accordance with the Floodplain Management Section of the Department of Planning and Development Services according to the Flood Damage Prevention Ordinance, the Kern Land Division Ordinance, and the Kern County Zoning Ordinance as may be amended from time to time.

Mitigation/Implementation Measures

- Measure 3 Areas within the 100-year floodplain shall be zoned with the appropriate FPP, FP, or FPS designation.
- Measure 4 New development within the 100-year floodplain shall be regulated in accordance with the Flood Damage Prevention Ordinance and the Kern County Zoning Ordinance as they may be amended from time to time.

Kern County Zoning Ordinance***Chapter 19.70 Floodplain Combining District***

Section 19.70.040 prohibits the following uses in the Floodplain Combining District, as applicable to the proposed project:

Implementation Measures

- Measure B: All uses that will likely increase the flood hazard or affect the water-carrying capacity of the floodplain beyond the limits resulting from encroachment as specified in Section 19.70.130.
- Measure C: Dumping, stockpiling, or storage of floatable substances or other materials which, in the opinion of the Kern County and Survey Services Department, will add to the debris loads of the stream or watercourse, unless protected by flood control devices approved by the Kern County Public Works Department and constructed in accordance with Section 19.70.130.
- Measure G: Sources of water supply (e.g., wells, springs) unless protected by flood control devices approved by the Kern County Public Works Department and constructed in accordance with the requirements of the Kern County Health Department so as to minimize infiltration of floodwaters.

Kern County Grading Ordinance (17.28)

Chapter 17.28 Kern County Grading Code. Requirements of the Kern County Grading Code will be implemented. A grading permit will be obtained prior to commencement of construction activities. Of particular note with respect to hydrology and water quality is Section 17.28.140, Erosion Control, which addresses the following:

Slopes. The faces of cut and fill slopes shall be prepared and maintained to control against erosion. This control may consist of effective planting. The protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.

Other Devices. Where necessary, check dams, cribbing, riprap or other devices or methods shall be employed to control erosion and provide safety.

Temporary Devices. Temporary drainage and erosion control shall be provided as needed at the end of each work day during grading operations, such that existing drainage channels would not be

blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust nuisance. Deposition of rocks, earth materials or debris onto adjacent property, public roads or drainage channels shall not be allowed.

Kern County Floodplain Management Ordinance (17.48)

Any construction that takes place within areas of special flood hazards, areas of flood-related erosion hazards, and areas of mudslide hazards within the jurisdiction of unincorporated Kern County will comply with the requirements and construction design specifications of this ordinance. Any required development permits will be obtained prior to commencement of construction activities. Sections 17.48.250 through 17.48.350 of the ordinance elaborate on the standards of construction in the special flood hazards area.

Kern County Development Standards

The Kern County development standards apply to all developments within Kern County that are outside of incorporated cities. These standards establish minimum design and construction requirements that will result in improvements that are economical to maintain and will adequately serve the general public. The requirements set forth in these standards are considered minimum design standards and will require the approval of the entity that will maintain the facilities to be constructed prior to approval by the County.

Kern County – Applicability of NPDES Program for a Project Disturbing 1 Acre or Greater

As closed systems that never contact the ocean or other waters of the U.S., many of the waters within Kern County are technically not subject to protective regulations under the federal NPDES Program. The Kern County Public Works Department requires the completion of an NPDES applicability form for projects with construction activities disturbing 1 or more acres, and requires the project proponent to provide information about construction activities and to identify whether storm water runoff has the potential of discharging into waters of the United States, waters of the state, or a terminal drainage facility. The purpose of the form is to identify which water quality protection measure requirements apply to different project (if any). Should storm water runoff be contained on site and not discharge into any waters, no special actions are required. Should storm water runoff discharge into waters of the United States, compliance with the SWRCB Construction General Permit SWPPP requirements is required. Should storm water runoff not be contained on site and drains to waters of the state or a terminal drainage facility, the project proponent would be required to develop a SWPPP and BMPs.

Water Rights Adjudication

A groundwater rights adjudication process has been underway for over 15 years to manage the basin through the Antelope Valley Integrated Regional Water Management Plan, which includes the project site. The parties to the adjudication include non-governmental overlying users, appropriative users, non-user overlying land owners and federally reserved water rights. The case defines who controls and uses the water in the basin.

In May 2011, the Santa Clara Superior Court issued an official decision determining that the adjudication area is in a state of overdraft and establishing a safe yield for the basin of 110,000 acre-feet per year (AFY), although pumping in the area has ranged up to 150,000 AFY.

On December 23, 2015, Judge Komar issued a final judgment which set in motion court-directed procedures for on the Directors of the Antelope Valley-East Kern Water Agency (AVEK) to create a Watermaster organization empowered to monitor the groundwater basin. In their first meeting of the year following settlement of long-running litigation over water rights adjudication, AVEK, as directed by the court, took action to begin the Watermaster transition process. The judgment specifies that the Watermaster board be made up of five members, including a representative from AVEK; the Los Angeles County Waterworks District 40; one public water supplier selected by District 40, Palmdale Water District (PWD), Quartz Hill Water District (QHWD), Littlerock Creek Irrigation District (LCID), California Water Service Company (Cal Water), Desert Lake Community Services District (DLCSD), North Edwards Water District (NEWD), City of Palmdale, City of Lancaster, Palm Ranch Irrigation District (PRID), and Rosamond Community Services District (RCSD); and two landowner representatives. The Watermaster board was also tasked with arriving at a unanimous decision on a Watermaster engineer. Todd Groundwater was selected as the Watermaster engineer in April 2017 and will assign pumping allocations per user that will be metered and monitored on an annual basis. Although not anticipated due to the minor amount of water required for the proposed project, should project water demands exceed the assigned allocation, the proposed project would not be denied access to groundwater, but may be required to pay a replenishment fee for pumpage in excess of the user's allocation if groundwater is utilized.

4.10.4 Impacts and Mitigation Measures

Methodology

This section analyzes impacts on hydrology and water quality from the implementation of the project based on changes to the environmental setting as described above, identified drainage conditions in the project site, and the current regulatory framework. Impacts were evaluated based on a review of available data and information, which is summarized above, and 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 adverse effect on hydrology and water quality.

A project could have a have a significant adverse effect on hydrology and water quality if the project 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 site 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;
 - iv. Impede or redirect flood flows;
- d. Result 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.

Construction

The project site is relatively flat open space where runoff occurs as overland sheetflow. Project construction would include the following construction activities: grading for access roads; stationary ground-mounted photovoltaic (PV) module foundations; a temporary concrete batch plant; inverters and transformers; an on-site collector substation, underground and overhead fiber optics, a battery storage facility; an O&M Facility; and underground electrical collection systems. Construction would also require areas for material laydown and equipment staging. Conventional grading would be performed selectively throughout the project site. However, because the project area is relatively flat, it is anticipated that grading would be limited in most areas. Grading and excavation would also be required for the proposed foundations. These activities would affect current drainage patterns and erosion on the project site; however, designing the site grading and access roads in compliance with County standards would prevent substantial alterations to drainage patterns and erosion within the project site. The amount of impervious surfaces from construction of access roads, PV module foundations, substations, and other improvements would be relatively limited compared to the overall perviousness of the project site and spread out across the approximately 2,285-acre project area.

Potential impacts on water quality from erosion and sedimentation are expected to be localized and temporary during construction. 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 (i.e., the project area drains to a terminal basin that is not hydrologically connected to a navigable waterway), obtaining coverage under the General Construction NPDES permit for stormwater is not required. However, because the project would disturb more than 1 acre of land area and stormwater would not be contained on site or discharge into a terminal drainage facility, the County would require the project proponent to prepare and

implement a SWPPP for the project. The SWPPP would include BMPs to be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby drainages, and would be applicable to all areas of the project, including the solar fields and the gen-tie line. Specific BMPs for the construction phase would be identified during completion and County review of the SWPPP. However, typical BMPs to be implemented would include the following:

- a. Stockpiling and disposing of demolition debris, concrete, and soil properly;
- b. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas;
- c. Implementing erosion controls;
- d. Properly managing construction materials;
- e. Proper protections for fueling and maintenance of equipment and vehicles; and
- f. Managing waste, aggressively controlling litter, and implementing sediment controls.

In addition, prior to the commencement of construction activities, the project proponent would be required to adhere to the requirements of the Kern County Grading Ordinance, which requires implementation of erosion control measures to protect water quality.

During project construction, any activity that results in the accidental release of hazardous or potentially hazardous materials could result in water quality degradation. Materials that could contribute to this impact include diesel fuel, gasoline, lubricant oils, hydraulic fluid, antifreeze, transmission fluid, lubricant grease, cement slurry, and other fluids used 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. As noted in Section 4.9, *Hazards and Hazardous Materials*, of this EIR, Mitigation Measure MM 4.9-1 would require the project proponent to provide a Hazardous Materials Business Plan (HMBP) that would delineate hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies, including fires. The project proponent would provide the HMBP to all contractors working on the project and would ensure that one copy is available at the project site at all times. Implementation of the HMBP would ensure that all hazardous materials are handled, stored, and disposed of in a manner that is protective of water quality in stormwater runoff such that potential impacts during construction would be less than significant.

Operation

The solar facilities would require limited use of certain hazardous materials for routine daily operations and maintenance. Accidental release of such materials could include fuels, paints, coatings, lubricants, and transformer oil, which would result in water quality degradation if the materials were to become entrained in stormwater. This would result in a potentially significant impact on water quality. However, implementation of Mitigation Measure MM 4.9-1 would require the project proponent to prepare and implement a Hazardous Materials Business Plan, which would minimize this impact by ensuring safe handling of hazardous materials on site, and providing for cleanup in the event of an accidental release.

In addition to accidental releases of potential hazardous materials, during project operations, water quality could also be degraded as a result of increases in pollutants washed from impervious surfaces on the project

site. Briefly, during dry periods, impervious surfaces (i.e., hardscape surfaces such as proposed collector substation, inverters and other hardscape like the gravel roads which because of compaction are effectively impervious) can collect greases, oils, and other vehicle-related pollutants. During storm events, these pollutants can become entrained in surface waters, resulting in water quality degradation. However, when the project is operational, 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 (LID) 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. Examples of routine structural BMPs include filtration, drainage swales, runoff-minimizing landscape for common areas, and retention basins. Adherence to these requirements would minimize potential for the operation period to cause any significant water quality degradation. Apart from infrequent cleaning of panels with water, which is unlikely to result in runoff, no other discharges would occur when the project is operational. Therefore, with the implementation of Mitigation Measure MM 4.9-1, the project would not violate water quality standards or waste discharge requirements, or otherwise degrade water quality in surface water or groundwater.

Mitigation Measure

Kern County

Implementation of Mitigation Measure MM 4.9-1 would be required.

State Lands Commission

Implementation of Mitigation Measure MM 4.9-1 would be required.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measure MM 4.9-1, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.9-1, 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.

The project area is located on mostly undeveloped land in an area that does not currently have any water-demanding activities. Records indicate that the groundwater basin underlying the project site has been in a state of overdraft for over 50 years. In 2011, Superior Court Judge Jack Komar issued an official decision that the basin is in a state of overdraft and that the safe yield of this basin is 110,000 AFY. This amount

accounts for imported water that is used to recharge the basin in addition to natural recharge from infiltration of precipitation and snowmelt. The judgment requires the Watermaster engineer (currently Todd Engineers) to monitor components of the total safe yield in the basin and to present those data sets to the court in an annual report (Todd Groundwater 2019). Although the basin as a whole is still in an overdraft condition, the project site is located in the western portion of the basin in the Willow Springs subbasin, where groundwater levels are stabilizing or even possibly rising (Todd Groundwater, 2019). According to the 2018 Annual Report, the amount of groundwater in storage for the Basin for the basin as a whole was calculated to have increased by 1,312 AF from 2018 to 2019; 10,710 acre-feet (AF) from 2017 to 2018; and 53,761 AF from 2016 to 2017 (Todd Groundwater 2019).

The proposed project would require an estimated 150 AF of water during construction for dust suppression, concrete manufacturing, truck wheel washing, equipment washing, and fire safety. Water required during construction could be supplied from a private water purveyor (Renewable Resources Group) or Rosamond Community Service District (RCSD). Renewable Resources Group has a 1,159 AFY water right and did not document any water use in their 2016 Annual Report (Watearth 2019b). RCSD anticipates having a project water supply availability of 2,304 AF in 2020 which includes groundwater and other sources such as imported surface water (Watearth 2019b). Therefore, the proposed water suppliers have adequate adjudicated supplies to serve the project.

Due to existing overdraft conditions within the Antelope Valley groundwater basin, any use of on-site groundwater would potentially contribute to existing overdraft conditions. However, groundwater levels in the Willow Springs subbasin, where the project is located, are understood to be stabilized or rising, indicating that localized overdraft is recovering. As noted above, from 2017 to 2018 alone, groundwater storage increased by 10,710 AF, which would more than accommodate the construction needs of the project without adversely affecting water levels. In addition, construction water requirements would be temporary, lasting approximately 12 months, after which time project water usage would drop substantially to 10.8 AFY.

The project's operational water requirements of approximately 11 AFY, primarily for washing of the modules once a year, would be relatively small, and as water use in the basin is managed along with trends of higher water-intensive uses such as agricultural production converting to less-demanding water uses such as renewable energy projects, water in storage appears to be recovering. The project's demands would represent a small portion of the established safe yield of the basin (110,000 AFY), and would not substantially deplete groundwater levels in comparison to existing conditions of the groundwater basin. Water supply management strategies suggest that water supply availability in the Antelope Valley region would continue and reductions in groundwater pumping following the judgement resulted in reported lower extractions in 2017 compared to 2016 and within the total safe yield of 110,000 AFY set in the judgement (Todd Groundwater 2019). While it is possible that the project's demand may require trucking water from a local purveyor to the site, supplies are sufficient to meet the requirements of the project (Watearth 2019b).

For additional discussion of the effects of adjudication on the availability of water supply for the project, please refer to Section 4.17, *Utilities and Service Systems*, of this EIR.

The project would result in an increase in impervious surfaces on the site from the equipment foundations, substation, and compacted gravel roads. The panels, which would cover the largest area of the site, are not considered impervious surfaces; stormwater falling on the panels would drip off and infiltrate into the ground below, or run off during larger storm events into constructed drainage basins. Therefore, 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. Construction and

operation of the project would have a less than significant impact on groundwater supplies and groundwater recharge.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

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.

The current drainage patterns at the project site are characterized as overland sheet flow that occurs from northwest to southeast. Under existing conditions, during small events, rainfall is generally quickly absorbed into sandy and silty soils on site, and does not run off. During larger events, runoff occurs primarily within poorly defined drainages on site.

The project would include limited grading such that off-site flow that enters the site would continue to flow south through the site much as it does currently. However, installation of the proposed facilities discussed in Chapter 3, *Project Description*, of this EIR would alter existing on-site drainage patterns and flowpaths to some degree, and could alter the way that stormwater from upgradient flows across the project site during major events. Given the unconsolidated and erosive nature of soils within the project area and its vicinity, these changes could result in increased erosion on site. Additionally, if the project controls stormwater runoff to the site through berms or other engineered channels, increased concentration of flows could cause head cutting, scour, and other erosional processes. Increases in erosion could result in sedimentation downstream. Finally, the new impervious surfaces created by development of the project would generate additional stormwater runoff on site. This could exacerbate potential erosion and sedimentation on site or downstream.

According to the hydrology report completed for the site, the project is likely to require retention basins to comply with the Kern County Development Standards (Watearth 2019a). The implementation of retention basins and other design features would be sized to offset increased storm flows in accordance with County

standards without which adverse erosion and/or sedimentation effects could occur. Therefore, implementation of Mitigation Measure MM 4.10-1 would be required. Mitigation Measure MM 4.10-1 would require preparation of a final drainage plan designed to evaluate and minimize potential increases in runoff and ensure that the retention basins and other stormwater management features are implemented consistent with existing regulatory requirements and minimize erosion or sedimentation to less than significant levels.

Mitigation Measures

Kern County

MM 4.10-1: Prior to the issuance of a grading permit, the project proponent shall complete a final drainage plan designed to evaluate and minimize potential increases in runoff from the project site. The study and plan shall include the following:

1. A numerical stormwater model for the project site that evaluates existing and proposed (with project) drainage conditions during storm events ranging up to the 100-year event.
2. An assessment 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.
3. 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.
4. A specification that 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 panel sites located within a 100-year floodplain shall be graded to direct potential flood waters without increasing the water surface elevations more than 1 foot or as required by Kern County's Floodplain Ordinance.

The drainage plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards and approved by the Kern County Public Works Department prior to the issuance of grading permits.

State Lands Commission

MM 4.10-1: Prior to the issuance of a grading permit, the project proponent shall complete a final drainage plan designed to evaluate and minimize potential increases in runoff from the project site. The study and plan shall include the following:

1. A numerical stormwater model for the project site that evaluates existing and proposed (with project) drainage conditions during storm events ranging up to the 100-year event.

2. An assessment 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.
3. 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.
4. A specification that 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 panel sites located within a 100-year floodplain shall be graded to direct potential flood waters without increasing the water surface elevations more than 1 foot or as required by Kern County's Floodplain Ordinance.

The drainage plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards and approved by the Kern County Public Works Department prior to the issuance of grading permits.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.10-1, 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.

As discussed above in Impact 4.10-3, installation of the project facilities would alter existing on-site drainage patterns and flowpaths compared to existing conditions and include the introduction of new impervious surfaces. These changes could cause localized flooding during major events along the margins of the project area, or within the project area, depending upon how stormwater is managed under final project design. Changes in drainage patterns on site that relate to the installation of new facilities, especially changes that result in flow concentration, could increase the occurrence of localized flooding on site or downstream. Finally, proposed new impervious surfaces would generate additional stormwater runoff on site. This could exacerbate potential increases in localized flooding on site or downstream.

The entire project site is located within Zone A, an area that is subject to inundation from a 100-year flood event. However, the amount of new impervious surfaces would be less than one percent of the entire project area and not anticipated to substantively increase the rate or amount of surface runoff (Watearth 2019a). In addition, as described above, a final drainage plan would be completed for the project site, which would include calculations, in accordance with Kern County requirements, of estimated runoff volumes associated with the 10-year, 24-hour storm event. As described in Mitigation Measure MM 4.10-1, the final drainage plan will be required to ensure appropriate drainage of the project site. This final drainage plan will ensure that 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 panel sites located within a 100-year floodplain shall be graded to direct potential flood waters without increasing the water surface elevations more than 1 foot or as required by Kern County's Floodplain Ordinance. With implementation of Mitigation Measure MM 4.10-1, final design of proposed stormwater management facilities including the retention basins would be required. The final design would determine the appropriate sizing and location of the retention basins to ensure that flooding on- or off site is reduced to less than significant levels.

Mitigation Measures

Kern County

Implementation of Mitigation Measure MM 4.10-1 would be required.

State Lands Commission

Implementation of Mitigation Measure MM 4.10-1 would be required.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant.

Impact 4.10-5: The project 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.

The project site is located in a remote, rural region with no existing or planned stormwater infrastructure. As described above, the project would be required to adhere to Kern County Public Works Department storm water requirements, which include measures to address stormwater controls on both management of runoff volume and water quality, including controlling erosion and protection of water quality of stormwater runoff. During operation, most of the project site would remain as pervious surfaces, allowing infiltration of the runoff produced by the new minor impervious surfaces. The project would not exceed the capacity of any existing or planned infrastructure and the implementation of Mitigation Measure MM 4.10-

1 would minimize potential increases in stormwater flow and other project-induced changes to drainage patterns to less than significant levels.

Mitigation Measures

Kern County

Implementation of Mitigation Measure MM 4.10-1 would be required.

State Lands Commission

Implementation of Mitigation Measure MM 4.10-1 would be required.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant.

Impact 4.10-6: The project would contribute to inundation by a flood hazard, tsunami, or seiche zones, that would result in risk of release of pollutants.

As discussed more thoroughly in Section 4.9, *Hazards and Hazardous Materials*, the project would not include the use, storage, or disposal of significant quantities of hazardous materials. In addition, the project site is located well inland and far from the ocean or any enclosed or semi-enclosed water body such that there would be no potential threat from tsunami or seiche hazards. Therefore, based on the characteristics of the project and the location, the project would have a less than significant potential to release pollutants from flooding, tsunamis, or seiche waves.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Impact 4.10-7: 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 South Lahonton RWQCB and is subject to the applicable requirements of the Basin Plan administered by the RWQCB in accordance with the Porter-Cologne Water Quality Control Act. The proposed project is not subject to a sustainable groundwater management plan and, therefore, is not under a specific Groundwater Sustainability Plan (GSP) area. Although the proposed project is not within a GSP required area, the project site is within the Antelope Valley Groundwater Basin, which is under existing adjudication. As discussed above, the project would include required BMPs and drainage control requirements that would not conflict with or obstruct implementation of the Basin Plan and the potential impacts would be less than significant.

As noted above, the project site is located within the Antelope Valley Groundwater Basin, most of which is in an adjudicated area for groundwater management. The adjudication provides a framework to sustainably manage the basin and reduce groundwater level declines and subsidence. To administer the judgment, the court directed appointment of the Watermaster (a five-member board). In 2016, the Watermaster board and an advisory committee (both entities required under the Judgment) were formed. The board hired Todd Groundwater as Watermaster engineer (required by the judgment) at the end of April 2017 to provide hydrogeological and technical analyses and to guide administrative functions to fulfill the judgment. Under the judgment, the Watermaster engineer has the responsibility of preparing annual reports to the court, the most recent of which was published in 2018 for the 2017 water year. The project would require water for construction and operation phases that would be obtained from a private water purveyor or the RCSD and trucked onto the site. The private water purveyor or the RCSD are parties to the adjudication and would provide water in compliance with the requirements of the adjudicated basin management. Therefore, the project would not conflict with the groundwater management of the area and the potential impacts would be less than significant.

Mitigation Measures**Kern County**

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance**Kern County**

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope considered for the cumulative analysis is the Antelope Valley HU for surface water and the Antelope Valley Groundwater Basin for groundwater. As described in Chapter 3, *Project Description*, of this EIR, multiple projects, including several utility-scale solar and wind energy production facilities, are proposed throughout the Western Antelope Valley in both Kern and Los Angeles Counties. The Antelope Valley HU is a closed basin with no outlets to the ocean. The Antelope Valley is a recognized groundwater basin, and use of the basin as the geographic scope allows for analysis of impacts to the local groundwater supply. The related projects listed in Table 3-4, *Cumulative Projects List*, all reside in a somewhat smaller geographic scope than the Antelope Valley HU, but this smaller area is likely experiencing development, particularly development of renewable energy, of a type and density that is representative of the hydrological unit as a whole. As shown in Table 3-4, in the project vicinity eight solar energy projects are proposed in Kern County.

With regard to water supply, the cumulative scenario projects, including solar energy projects, would require water for construction and operation. The Santa Clara Superior Court has established a safe threshold for water extraction from the Antelope Valley Groundwater Basin to be 110,000 acre-feet per year. As noted above for the proposed project, related projects in the Antelope Valley Groundwater Basin would also be required to adhere to the adjudication judgement. Water suppliers that are providing water supply to the related projects are parties subject to the requirements of the adjudication basin management overseen by the Watermaster. Therefore, the incremental water use of the project, along with the other similar cumulative projects that are being managed by the Watermaster, during construction and operations would not result in a significant cumulative impact to the basin. Hence, cumulative impacts related to water supplies are less than significant.

As discussed above, the solar projects would be required to implement a SWPPP and associated BMPs to minimize the potential for the release of pollutants and sediment into surface water. Other cumulative scenario projects would be required to implement similar measures as a part of the CEQA and permitting review process. Therefore, cumulative scenario impacts associated with water quality degradation would not be cumulatively considerable, and the project would not contribute to a cumulative impact on water quality.

With respect to erosion, drainage, and flooding, the project would implement Mitigation Measure MM 4.10-1, which would minimize direct impacts on erosion, drainage, and flooding. Other cumulative scenario projects would be required to implement similar measures, in order to minimize erosion, drainage, and flooding related impacts. Additionally, drainage related impacts from cumulative scenario projects would be primarily localized. Therefore, cumulative scenario impacts on erosion, drainage, and flooding are not anticipated to be cumulatively considerable, and the project would not contribute to a cumulative impact on flooding, erosion, or drainage.

Mitigation Measures

Kern County

Implementation of Mitigation Measure MM 4.10-1 would be required.

State Lands Commission

Implementation of Mitigation Measure MM 4.10-1 would be required.

Level of Significance after Mitigation**Kern County**

With implementation of Mitigation Measure MM 4.10-1, cumulative impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.10-1, cumulative impacts would be less than significant.

4.11.1 Introduction

This section of the EIR describes the affected environment and regulatory setting of the project for impacts that may affect land use and planning. It also describes the environmental and regulatory setting and discusses the need for mitigation measures where applicable. The information in this section is based primarily, but not exclusively, on a review of the project's consistency with the Kern County General Plan, the Willow Springs Specific Plan and the Kern County Zoning Ordinance.

4.11.2 Environmental Setting

Onsite Land Uses

The project is located in southcentral Kern County on undeveloped land. The project site is located within the administrative boundaries of both the Kern County General Plan and the Willow Springs Specific Plan. Further, the project is subject to the provisions of the Kern County Zoning Ordinance. The project site is not located within the boundaries of an Airport Influence Area as identified in the Kern County Airport Land Use Compatibility Plan (ALUCP). There are no residences or other structures on the project site.

As shown in **Table 4.11-1, Project Site and Surrounding Land Use Designations and Zoning Classifications**, below, and in Chapter 3, *Project Description*, **Figure 3-3, General Plan Designations**, of this EIR, the project site is located within unincorporated Kern County and within the administrative boundaries of both the Kern County General Plan and the Willow Springs Specific Plan. Within the Kern County General Plan, the project site is designated Map Code(s) 8.3 (Extensive Ag – 20-acre min), 8.5 (Resource Management – Minimum 20 Acre Size), 8.3/2.5 (Extensive Ag/Flood Hazard), 8.5/2.1 (Resource Management/Seismic Hazard), and 8.5/2.5 (Resource Management/Flood Hazard). Within the Willow Springs Specific Plan, the project site is designated Map Code(s) 5.7 (Residential – Minimum 5 Gross Acres/Unit), 5.75 (Residential – Minimum 10 Gross Acres/Unit), 5.8 (Residential – Minimum 20 Gross Acres/Unit), and 5.8/2.1 (Residential – Minimum 20 Gross Acres/Unit/Seismic Hazard).

The 8.3 General Plan land use designation applies to agricultural uses involving large amounts of land with relatively low value per acre yields. Typical uses include livestock grazing, farming and woodlands. The minimum allowable parcel size in the 8.3 category is 20-acres gross, except lands subject to a Williamson Act Contract/Farmland Security Zone Contract, in which case the minimum parcel size is 80-acres gross. The 8.5 land use designation applies primarily to open space lands containing important resources, such as wildlife habitat, scenic values, or watershed recharge areas. Typical uses include livestock grazing, farming and ranching, nature preserves, water storage and groundwater recharge areas, irrigated croplands, and open space and recreation. The minimum allowable parcel size in the 8.5 category is 20-acres gross, except lands subject to a Williamson Act Contract/Farmland Security Zone Contract, in which case the minimum parcel size is 80-acres gross. The 2.5 land use designation applies to areas identified as a Special Flood Hazard Area. Special Flood Hazard Areas (Zone A) are identified on the Flood Insurance Rate Maps (FIRM) of

the Federal Emergency Management Agency (FEMA) and are identified on floodplain delineation maps that have been approved by the County.

With respect to the Willow Springs Specific Plan, the 5.7, 5.75, and 5.8 land uses allow a maximum of 5, 10, and 20 gross acres per dwelling unit, respectively. These land use designations are typically in outlying, less densely settled areas, often characterized with physical constraints and not requiring connections to public water and sewer infrastructure.

As shown in **Table 4.11-1**, *Project Site and Surrounding Land Use Designations and Zoning Classifications*, below, and in Chapter 3, *Project Description*, **Figure 3-4**, *Existing Kern County Zoning Classifications*, of this EIR, the project site is located within the A (Exclusive Agriculture), A FP (Exclusive Agriculture – Floodplain Combining), A FPS (Exclusive Agriculture – Floodplain Secondary Combining), A GH (Exclusive Agriculture – Geologic Hazard Combining), A GH FPS (Exclusive Agriculture – Geologic Hazard Combining – Floodplain Secondary Combining), E-2.5 RS FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-5 RS FPS (Estate Residential – 5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-10 RS FPS (Estate Residential – 10 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-10 RS GH FPS (Estate Residential – 10 acres Minimum – Residential Suburban Combining – Geologic Hazard Combining – Floodplain Secondary Combining), E-10 RS MH FPS (Estate Residential – 10 acres Minimum – Mobile Home Combining – Floodplain Secondary Combining), E-20 RS FPS (Estate Residential – 20 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-20 RS GH FPS (Estate Residential – 20 acres Minimum – Residential Suburban Combining – Geologic Hazard Combining – Floodplain Secondary Combining), and PL RS FPS (Platted Lands – Residential Suburban Combining – Floodplain Secondary Combining) Zoning Districts.

A 160-acre portion of the project site is within the jurisdictional boundaries of the California State Lands Commission (Commission). The County does not possess land use jurisdiction over State and federal lands. However, the Commission has chosen to defer to the County's requirements with regards to construction on the project site; therefore, all necessary building permits shall be obtained from Kern County. To build and operate a solar facility on the project site, the project operator is seeking approval of a lease agreement (General Lease – Industrial Use) from the Commission. Commission lands within the project site are subject to the Desert Renewable Energy Conservation Plan (DRECP) as further discussed in this section.

Approximately 954 acres of the project site are within Kern County Agricultural Preserve Number 24 boundary, as is the standard practice in Kern County for any land that is zoned A (Exclusive Agriculture), this includes the portions of the project site that are currently zoned A FP (A, Floodplain Combining), and A FPS (A, Floodplain Secondary). No lands within the project site are subject to a Williamson Act Land Use contract.

TABLE 4.11-1: PROJECT SITE AND SURROUNDING LAND USES

	Existing Land Use	Existing General Plan Designation	Existing Zoning Classification
Project Site	Vacant Land	8.3 (Extensive Ag/20-acre min);	A (Exclusive Agriculture);
		8.5 (Resource Management – Minimum 20 Acre Size);	A FP (A – Floodplain Combining);
		8.3/2.5 (Extensive Ag./Flood Hazard);	A FPS (A – Floodplain Secondary);
		8.5/2.1 (Resource Management/Seismic Hazard);	A GH (A – Geologic Hazard Combining);
		8.5/2.5 (Resource Management/Flood Hazard);	A GH FPS (A – Geologic Hazard–Floodplain Secondary);
		<i>Willow Springs Specific Plan:</i>	E-2.5 RS FPS (Estate 2.5 acres – Residential Suburban – Floodplain Secondary);
		5.7 (Residential – Minimum 5 Gross Acres/Unit);	E-5 RS FPS (Estate 5 acres – Residential Suburban – Floodplain Secondary);
		5.75 (Residential – Minimum 10 Gross Acres/Unit);	E-10 RS FPS (Estate 10 acres– Residential Suburban – Floodplain Secondary);
		5.8 (Residential – Minimum 20 Gross Acres/Unit);	E-10 RS GH FPS (Estate 10 acres– Residential Suburban – Geologic Hazard– Floodplain Secondary);
		5.8/2.1 (Residential – Minimum 20 Gross Acres/Unit/Seismic Hazard)	E-10 RS MH FPS (Estate 10 acres– Mobile Home Combining –Floodplain Secondary);
North	Solar Energy,	8.3 (Extensive Ag/20-acre min);	A (Exclusive Agriculture);
	Scattered Single-family homes; Vacant Land	8.3/2.5 (Extensive Ag./Flood Hazard);	A FP (A – Floodplain Combining);
		8.5 (Resource Management/20-acre min)	A FPS (A – Floodplain Secondary);
			A WE (A – Wind Energy);
South	Scattered Single-family homes; Vacant Land	<i>Willow Springs Specific Plan:</i>	PL RS (Platted Land – Residential Suburban);
		5.7 (Residential – Minimum 5 Gross Acres/Unit);	PL RS FPS (Platted Lands – Residential Suburban – Floodplain Secondary)
		5.75 (Residential – Minimum 10 Gross Acres/Unit);	E-5 RS FPS (Estate 5 acres – Residential Suburban – Floodplain Secondary);
		5.8 (Residential – Minimum 20 Gross Acres/Unit)	E-10 RS FPS (Estate 10 Acres – RS FPS);
			E-20 RS FPS (Estate 10 Acres – RS FPS)

TABLE 4.11-1: PROJECT SITE AND SURROUNDING LAND USES

	Existing Land Use	Existing General Plan Designation	Existing Zoning Classification
East	Scattered Single-family homes; Solar Energy; Vacant Land	8.5 (Resource Management/20-acre min) <i>Willow Springs Specific Plan:</i> 5.8 (Residential – Minimum 20 Gross Acres/Unit)	A (Exclusive Agriculture); A FP (A – Floodplain Combining); A FPS (A – Floodplain Secondary); E-20 RS FPS (Estate 20 Acres – Residential Suburban - Floodplain Secondary); PL RS (Platted Land – Residential Suburban); PL RS FPS (Platted Lands – Residential Suburban – Floodplain Secondary)
	Wind & Solar Energy; Vacant Land	8.3 (Extensive Ag/20-acre min); 8.5 (Resource Management/20-acre min) <i>Willow Springs Specific Plan:</i> 1.1 (State or Federal Land); 5.8 (Residential – Minimum 20 Gross Acres/Unit); 8.5 (Resource Management/20-acre min)	A (Exclusive Agriculture); A FP (A – Floodplain Combining); A FPS (A – Floodplain Secondary); A WE (A – Wind Energy)
West			

Surrounding Land Uses

As described in **Table 4.11-1, Project Site and Surrounding Land Uses**, above, surrounding land uses are composed primarily of undeveloped land, scattered single-family homes, and other solar energy development. Existing development in the project vicinity includes rural access roads, scattered rural residences, producing and non-producing water wells, off-highway vehicle use, cattle ranching and maintenance facilities, mining, wind and solar energy, and meteorological towers. A portion of the Pacific Crest Trail (PCT) is approximately 4.4 miles west of the project site. The nearest populated areas are the unincorporated community of Rosamond approximately 7 miles to the southeast, the unincorporated community of Mojave approximately 13 miles northeast, and the City of Tehachapi approximately 14 miles slightly northwest. The Rosamond Airport and Airpark are located approximately 7 miles southeast of the project site.

As with the proposed project, surrounding land uses are designated 4.1 (Accepted County Plan Areas), 8.3 (Extensive Ag, 20-acre min), 8.5 (Resource Management, Minimum 20 Acre Size), 8.3/2.5 (Flood Hazard), and 8.5/2.5 (Flood Hazard). Surrounding land uses are located within the A (Exclusive Agriculture), A FP (A, Floodplain Combining), A FPS (A, Floodplain Secondary), A WE (A, Wind Energy), E-20 RS FPS (Estate 20 acres, Residential Suburban, Floodplain Secondary), and PL RS FPS (Platted Lands, Residential Suburban, Floodplain Secondary) Zone Districts.

4.11.3 Regulatory Setting

Federal and State

The California State Lands Commission

In 1853, the United States Congress granted to the State of California nearly 5.5 million acres of land for the specific purpose of supporting public schools. The Commission manages approximately 468,000 acres of school lands still held in fee ownership by the State and the reserved mineral interests on an additional approximately 790,000 acres where the surface estates have been sold. Revenue from school lands is deposited in the State Treasury for the benefit of the Teachers' Retirement Fund (Pub. Resources Code, Section 6217.5). In 1984, the State Legislature passed the School Land Bank Act (Act), which established the School Land Bank Fund (SLBF) and appointed the Commission as its trustee (Pub. Resources Code, Section 8700 et seq.). The Act directed the Commission to develop school lands into a permanent and productive resource base for revenue generating purposes. In addition, sections 6501-6509 of the Public Resources Code govern how the Commission administers this property, including leasing, mining, mineral rights, and sales. In particular, Section 6501.1 states that the Commission may lease lands for commercial, industrial, and recreational purposes.

On October 16, 2008, the Commission adopted a resolution supporting the environmentally responsible development of school lands under its jurisdiction for renewable energy-related projects. In this resolution, the Commission resolved that lands within its jurisdiction may be developed only with assurances that the state's unique and sensitive environments will be protected. The resolution also defines the Commission's support for the environmentally responsible development of school lands under the Commission's jurisdiction. The resolution further states that the Commission should encourage project operators to submit applications for the use of school lands for the environmentally responsible development of renewable energy.

A memorandum of agreement, executed in May 2012 between the Commission and the Department of Interior, acting through the U.S. Bureau of Land Management (BLM), describes the terms and procedures for land exchanges between these agencies to consolidate school lands into larger parcels suitable for commercial-scale renewable energy projects.

The Commission's participation in the Desert Renewable Energy Conservation Plan (DRECP) and school land consolidation effort is in anticipation of identifying renewable energy development opportunities and in using the DRECP to prepare tiered CEQA and NEPA analysis for specific land exchange transactions and renewable energy projects on Commission land.

During project-specific review and approval, the Commission may be a lead or responsible agency under CEQA due to its authority to require a lease or permit for covered renewable energy project proposals that may be developed on school lands or sovereign lands. For the proposed project, the Commission is a responsible agency.

The Desert Renewable Energy Conservation Plan

The DRECP is a comprehensive plan that provides for renewable energy and transmission development projects and for the conservation of sensitive species and ecosystems in California's Mojave and Colorado/Sonoran deserts. It was prepared by the California Energy Commission (CEC), the California

Department of Fish and Wildlife (CDFW), BLM, and the U.S. Fish and Wildlife Service in September 2014. The Commission manages approximately 340,533 acres of school lands, or 1.5 percent of the total Plan Area, in which the Commission parcel is included.

Phase I of the DRECP was approved in September of 2016; as part of Phase I, the BLM has prepared a Record of Decision (ROD) approving its Land Use Plan Amendment (LUPA) to the California Desert Conservation Area (CDCA) Plan, and Bishop and Bakersfield Resource Management Plans (RMPs). The LUPA represents the public-lands component of the DRECP, identifying areas appropriate for renewable energy development, as well as areas important for biological, environmental, cultural, recreation, social, and scenic conservation, consistent with the FLPMA multiple use and sustained yield requirements. The amendments have been designed to result in an efficient and effective biological conservation and mitigation program providing renewable energy project developers with permit streamlining and cost containment while at the same time conserving, restoring, and enhancing natural communities and related ecosystems.

I. 1. 4. State Objectives

The CEC, CDFW, and the Commission identified three primary objectives the State must meet to achieve the fundamental purpose of the DRECP:

- Objective 1: Reduce the biological and other environmental impacts of future utility-scale renewable energy developments in the Plan Area by designating appropriate areas for renewable energy development within the context of a landscape-scale conservation plan that are sufficient to accommodate the foreseeable demand for renewable energy in the DRECP through 2040.
- Objective 2: Contribute to California's Renewables Portfolio Standard and the state's greenhouse gas reduction mandates and goals by planning for approximately 20,000 MWs of renewable energy generation and associated transmission capacity in the Plan Area by 2040, including obtaining state and federal incidental take authorizations with regulatory assurances needed for covered renewable energy and transmission projects.
- Objective 3: Provide for the long-term conservation and management of Covered Species within the Plan Area and preserve, restore, and enhance natural communities and ecosystems in which those species are found by focusing renewable energy development away from areas of greatest biological importance or sensitivity; coordinating and standardizing biological avoidance, minimization, mitigation, compensation, conservation, and management requirements for Covered Activities within the Plan Area; and taking other actions to meet conservation planning requirements in state and federal law.

Local

Land use and planning decisions within and adjacent to the project site are guided and regulated by the Kern County General Plan and Kern County Zoning Ordinance. The Kern County General Plan contains goals, objectives, and policies and provides an overall foundation for establishing land use patterns. For this land use impact analysis, this section lists all relevant goals, objectives, policies, and implementation measures related to the proposed project. The Zoning Ordinance contains regulations through which the General Plan's provisions are implemented. The most relevant regulations pertaining to solar energy development are presented below.

Kern County General Plan

The Kern County General Plan is a policy document designed to provide long-range guidance for planning decisions that affect the growth and resources of unincorporated Kern County. Included in the Kern County General Plan is the Land Use, Open Space, and Conservation Element, which provides for a variety of land uses for future economic growth while also assuring the conservation of Kern County's agricultural, natural, and resource attributes (County of Kern, 2009). Within the Land Use, Open Space and Conservation Element, policy areas are separated by overlay designations, known as "Map Codes", which are identified on the Kern County General Plan maps for each section of the County and include the following categories: (1) non-jurisdictional land (State and federal); (2) environmental constraints overlay; (3) public facilities; (4) non-jurisdictional land (accepted county plan areas, rural communities and specific plan required); (5) residential; (6) commercial; (7) industrial; and (8) resource.

According to the Kern County General Plan, the project site is located within Map Codes 4.1 (Accepted County Plan Areas), 8.3 (Extensive Ag, 20-acre min), 8.5 (Resource Management, Minimum 20 Acre Size), 8.3/2.5 (Flood Hazard), and 8.5/2.5 (Flood Hazard) (County of Kern, 2009). Each Map Code/overlay area contains specific goals, policies, and implementation measures to guide development within them.

In addition to the Land Use, Open Space, and Conservation Element, the Kern County General Plan includes other elements related to circulation, noise, and energy. Each element establishes goals, policies, and implementation measures that guide planning decisions in unincorporated Kern County. The goals, policies, and implementation measures relevant to the project are listed below.

1. Land Use, Open Space, and Conservation Element

1.3 Physical and Environmental Constraints

Goal

Goal 1: To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.

Policies

Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained ((Map Code 2.1 (Seismic Hazard), Map Code 2.2 (Landslide), Map Code 2.3 (Shallow Groundwater), Map Code 2.5 (Flood Hazard), Map Codes from 2.6 – 2.9, Map Code 2.10 (Nearby Waste Facility), and Map Code 2.11 (Burn Dump Hazard) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.

Policy 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.

Policy 10: The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the

proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.

Policy 11: Protect and maintain watershed integrity within Kern County.

Implementation Measures

Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize permitted topographic alteration and soil erosion while maintaining soil stability.

Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.

Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.

Measure J: Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.

Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.4 Public Facilities and Services

Goals

Goal 1: Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.

Goal 5: Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.

Policies

Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.

Policy 6: The County will ensure adequate fire protection to all Kern County residents.

Policy 7: The County will ensure adequate police protection to all Kern County residents.

Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the CEQA documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

Implementation Measures

- Measure B: Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the site of approval of the Final Map. This implementation can be effectuated by the formation of a County work group.
- Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.
- Measure D: Involve utility providers in the land use and zoning review process.
- Measure L: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.

1.9 Resource**Goals**

- Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.
- Goal 3: To ensure that the development of resource areas minimizes effects of neighboring resource lands.
- Goal 5: Conserve prime agricultural lands from premature conversion.
- Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

Policies

- Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of General Plan designation.
- Policy 7: Areas designated for agricultural use, which include Class I and II and other enhanced agricultural soils with surface delivery water systems, should be protected from incompatible residential, commercial, and industrial subdivision and development activities.
- Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.
- Policy 12: Areas identified by the Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service) as having high range-site value should be conserved for Extensive Agriculture uses or as Resource Reserve, if located within a County water district.

Implementation Measures

Measure F: Prime agricultural lands, according to the Kern County Interim-Important Farmland 2000 map produced by the Department of Conservation, which have Class I or II soils and a surface delivery water system shall be conserved through the use of agricultural zoning with minimum parcel size provisions.

1.10 General Provisions***Goal***

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

1.10.1 Public Services and Facilities***Policies***

Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.

Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Implementation Measures

Measure 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 E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the County's Public Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterize the quality of upper groundwater in the alternative septic systems would adversely impact groundwater quality. If the evaluation indicated that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic system is installed, the applicant would be required to supply sewage collection, treatment, and disposal facilities.

1.10.2 Air Quality

Policies

- Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.
- Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that:
- (1) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and
 - (2) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.
- Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.
- Policy 21: The County shall support air districts efforts to reduce PM10 and PM2.5 emissions.
- Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, state, and local standards.

Implementation Measures

- Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.
- Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:
- a. Minimizing idling time.
 - b. Electrical overnight plug-ins.
- Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:
- a. Pave dirt roads within the development.
 - b. Pave outside storage areas.
 - c. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.

- d. Use of alternative fuel fleet vehicles or hybrid vehicles.
- e. Use of emission control devices on diesel equipment.
- f. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces.
- g. Provide bicycle lockers and shower facilities on site.
- h. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).
- i. The use and development of park and ride facilities in outlying areas.
- j. Other strategies that may be recommended by the local Air Pollution Control Districts.

Measure J: The County should include PM10 control measures as conditions of approval for subdivision maps, site plans, and grading permits.

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

Policy

Policy 25: The County will promote the preservation of cultural and historic resources which provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measures

Measure K: Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.

Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.

Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Measure N: The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.

Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.

1.10.5 Threatened and Endangered Species

Policies

Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and federal laws.

Policy 28: County should work closely with State and federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources.

- Policy 29: The County will seek cooperative efforts with local, State, and federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.
- Policy 31: Under the provisions of the California Environmental Quality Act, the County, as lead agency, will solicit comments from the California Department of Fish and Game and the U.S. Fish and Wildlife Service when an environmental document is prepared.
- Policy 32: Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.

Implementation Measures

- Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.
- Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.

1.10.6 Surface Water and Groundwater

Policies

- Policy 34: Ensure that water quality standards are met for existing users and future development.
- Policy 41: Review development proposals to ensure adequate water is available to accommodate projected growth.
- Policy 43: Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.
- Policy 44: Discretionary projects shall analyze watershed impacts and mitigate for construction-related and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act (CEQA), to prevent the degradation of the watershed to the extent practical.

Implementation Measure

- Measure Y: Promote efficient water use by utilizing measures such as: (i) Requiring water-conserving design and equipment in new construction; (ii) Encouraging water-conserving landscaping and irrigation methods; and (iii) Encouraging the retrofitting of existing development with water conserving devices.

Chapter 2. Circulation Element

2.1 Introduction

Goals

- Goal 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.

Goal 5: Maintain a minimum [level of service] LOS D for all roads throughout the County.

2.3.3 Highway Plan

Goals

Goal 5: Maintain a minimum Level of Service (LOS) D.

Policies

Policy 1: Development of roads within the County shall be in accordance with the Circulation Diagram Map. The charted roads are usually on section and mid-section lines. This is because the road center line can be determined by an existing survey.

Policy 3: This plan's road-width standards are listed below. These standards do not include state highway widths that would require additional right-of-way for rail transit, bike lanes, and other modes of transportation. Kern County shall consider these modifications on a case-by-case basis.

Expressway [Four Travel Lanes] Minimum 110-foot right-of-way;

Arterial [Major Highway] Minimum 110-foot right-of-way;

Collector [Secondary Highway] Minimum 90-foot right-of-way;

Commercial-Industrial Street Minimum 60-foot right-of-way; and

Local Street [Select Local Road] Minimum 60-foot right-of-way.

Implementation Measure

Measure A: The Planning Department shall carry out the road network Policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. Planning Department can help developers and property owners in identifying where planned circulation is to occur.

2.3.4 Future Growth

Goal

Goal 1: To provide ample flexibility in this plan to allow for growth beyond the 20-year planning horizon.

Policies

Policy 2: The County should monitor development applications as they relate to traffic estimates developed for this plan. Mitigation is required if development causes affected roadways to fall below Level of Service (LOS) D. Utilization of the CEQA process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space and Conservation Element to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element.

Mitigation could involve exactions to build offsite transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.

Policy 4: As a condition of private development approval, developers shall build roads needed to access the existing road network. Developers shall build these roads to County standards unless improvements along State routes are necessary then roads shall be built to Caltrans standards. Developers shall locate these roads (width to be determined by the Circulation Plan) along centerlines shown on the circulation diagram map unless otherwise authorized by an approved Specific Plan Line. Developers may build local roads along lines other than those on the circulation diagram map. Developers would negotiate necessary easements to allow this.

Policy 5: When there is a legal lot of record, improvement of access to County, city or State roads will require funding by sources other than the County. Funding could be by starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.

Policy 6: The County may accept a developer's road into the county's maintained road system. This is at Kern County's discretion. Acceptance would occur after the developer follows the above requirements. Roads are included in the County road maintenance system through approval by the Board of Supervisors.

Implementation Measure

Measure C: Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards. 2.3.6 Vacation of Existing or Recorded Future Streets, Highways, or Public Easements.

Goal

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 1: A road vacation influencing the construction or operation of expressway, an arterials or collector highway may occur with, or after, amending this Element. Kern County will not vacate any public expressway, arterial or collector highway right-of-way without amendment to this Element. The County will need to amend the right-of way status to local or commercial-industrial streets.

Policy 2: 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 10: A road vacation may be approved if there is an agreement to close a public street. A road vacation may be approved with acknowledgment of an impassable street. A road vacation may be approved with a land division map over the area of vacation if the project has comparable methods of vehicular access.
- Policy 11: A road vacation procedure may be used for considering public service easement or utility service easement abandonments. The procedure is the same as any public right-of-way vacation.
- Policy 12: A vacation of improved road right-of-way, or public service easement, should not occur until the lead agency makes findings. One important finding is the land is no longer needed for public use. A vacation of improved road right-of-way, or public service easement, should not occur until the right-of-way is superseded by relocation, and improved to acceptable Kern County Development standards. The Board of Supervisors shall have accepted the replacement facility into the maintained road system.
- Policy 13: A general vacation proceeding (consistent with State of California Streets and Highway Code) will require a public hearing when the vacation affects existing in place facilities or is a project caused by relocating right-of-way.
- 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.

Implementation Measures

- Measure A: Kern County should require a research fee to determine if a complex vacation application is acceptable.
- Measure B: In resolving a vacation request, the Board of Supervisors will follow the policies and laws applicable to such vacation request. Before taking final action, the Board of Supervisors may require the applicant to submit additional study(s). Staff shall oversee the applicant's information gathering process and suggest alternatives if necessary.
- Measure C: The Planning Department shall issue guidelines for applicants to use in the preparation of road vacation applications and attendant reports.

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.

2.5.1 Trucks and Highways

The Kern County road network handles a high ratio of heavy truck traffic. State highways carry most of this traffic. Most of the trucks are interstate carriers. As such, interstate trucking is not under the direct control of County officials. In as much as this traffic affects County residents and taxpayers, they need actions to guarantee State highways in Kern County receive a fair share of California's transportation investment.

Goals

- Goal 1: Provide for Kern County's heavy truck transportation in the safest way possible.
- Goal 2: Reduce potential overweight trucks.
- Goal 3: Use State Highway System improvements to prevent truck traffic in neighborhoods.

Policies

Policy 1: Caltrans should be made aware of the heavy truck activity on Kern County's roads.

2.5.4 Transportation of Hazardous Materials***Goal***

Goal 1: Reduce risk to public health from transportation of hazardous materials.

Policy

Policy 1: The commercial transportation of hazardous material, identification and designation of appropriate shipping routes will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.

Implementation Measure

Measure A: Roads and highways utilized for commercial shipping of hazardous waste destined for disposal will be designated as such pursuant to Vehicle Code Sections 31303 et seq. Permit applications shall identify commercial shipping routes they propose to utilize for particular waste streams.

Chapter 3. Noise Element**3.3 Sensitive Noise Areas*****Goals***

Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.

Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.

Policies

Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.

Policy 3: Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise

Policy 4: Utilize good land use planning principles to reduce conflicts related to noise emissions.

Policy 7: Employ the best available methods of noise control.

Implementation Measures

Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.

- Measure C: Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policies outlined in this element.
- Measure F: Require proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dB L_{dn} and interior noise levels in excess of 45 dB L_{dn} .
- Measure G: At the time of any discretionary approval, such as a request for a General Plan Amendment, zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall:
- a) Be the responsibility of the applicant.
 - b) Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.
 - c) Be subject to the review and approval of the Kern County Planning Department and the Environmental Health Services Department. All recommendations therein shall be complied with prior to final approval of the project.
- Measure I: Noise analyses shall include recommended mitigation, if required, and shall:
- a) Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
 - b) Include estimated noise levels, in terms of CNEL, for existing and projected future (10 – 20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element.
 - c) Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.
 - d) Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a rationale for acceptance of the project must be provided.
- Measure J: Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.

Chapter 4. Safety Element

4.1 Introduction

Goal

- Goal 1: Minimize injuries and loss of life and reduce property damage.

4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint

Implementation Measures

Measure F: The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by the Federal Emergency Management Agency (FEMA), shall be used as a source document for preparation of environmental documents pursuant to the California Environmental Quality Act (CEQA), evaluation of project proposals, formulation of potential mitigation, and identification of specific actions that could, if implemented, mitigate impacts from future disasters and other threats to public safety.

4.3 Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure

Policy

Policy 1: The County shall require development for human occupancy to be placed in a location away from an active earthquake fault in order to minimize safety concerns.

Implementation Measure

Measure B: Require geological and soils engineering investigations in identified significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.

Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.

4.5 Landslides, Subsidence, Seiche, and Liquefaction

Policies

Policy 1: Determine the liquefaction potential at sites in areas of shallow groundwater (Map Code 2.3) prior to discretionary development and determine specific mitigation to be incorporated into the foundation design, as necessary, to prevent or reduce damage from liquefaction in an earthquake.

Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.

4.6 Wildland and Urban Fire

Policies

Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.

Policy 3: The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.

Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.

Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.

Implementation Measures

Measure A: Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.

4.9 Hazardous Materials

Implementation Measure

Measure A: Facilities used to manufacture, store, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent onsite hazards from affecting surrounding communities in the event of inundation.

Chapter 5. Energy Element

5.2 Importance of Energy to Kern County

Policies

Policy 8: The County should work closely with local, state, and federal agencies to assure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts to fish, wildlife, and botanical resources, wherever practical.

Policy 10: The County should require acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses in accordance with the Noise Element of the General Plan.

5.4.5 Solar Energy Development

Goal

Goal 1: Encourage safe and orderly commercial solar development.

Policies

Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

Policy 4: The County shall encourage solar development in the desert and valley regions previously disturbed, and discourage the development of energy projects on undisturbed land supporting state or federally protected plant and wildlife species.

5.4.7 Transmission Lines

Goal

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

Policy

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

Willow Springs Specific Plan

The proposed project is subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in April 2008 and contains goals, policies, and standards that are compatible with those in the Kern County General Plan, but are unique to the specific needs of the Willow Springs Area. The boundary of the Willow Springs Specific Plan was determined by various requests for residential, commercial, and industrial land uses and resulted in an expansion of the original plan by an area of 5,760 acres. The result was a Specific Plan area encompassing 50,560 acres. This project is the largest Specific Plan area in Kern County. Included in the Willow Springs Specific Plan is the Land Use, Circulation, Housing, Noise, Seismic Safety and Safety Element, Scenic Highways Element, and Open Space and Conservation. Within the Land Use Element, the Willow Springs Specific Plan includes sections for generalized land use designations, which include non-jurisdictional, physical constraints, public facilities, special treatment areas, residential, commercial, industrial, and resource (County of Kern, 2008).

Each element establishes goals, policies, and implementation measures that guide planning decisions in the Willow Springs Specific Plan area. The goals, policies, and implementation measures relevant to the project are listed below.

Land Use Element

Policies

Policy 5: Encourage the maintenance of visual aesthetics in all new construction.

Policy 6: Require developers to clean up any identified hazardous waste sites prior to submittal of any land division or development project.

Policy 2: Encourage only those industries that do not significantly increase air pollution levels.

Policy 8: New and/or existing developments shall comply with the Kern County Zoning Ordinance and this Specific Plan. Where conflicts appear, the more restrictive requirements shall prevail.

Policy 10: Require that construction sites be provided with a soil retardant measure approved by the County of Kern (Department of Planning and Development Services and the Environmental Health Services Department) to reduce fugitive dust or blowing sand.

Policy 11: Retain vegetation until actual construction begins.

Resource

Goal

Goal 3: Encourage retention of productive agricultural and dormant mineral resources by imposing a restriction on allowing urban type land uses on nearby adjacent lands.

Policies

Policy 1: Provide a method encouraging the preservation of agricultural land.

Policy 2: Initial development within the Update area shall, when possible, be directed towards previously impacted areas (i.e., agricultural fields).

Policy 3: To ensure compliance with applicable State and federal laws and to protect the biological resources present in the Specific Plan area.

Mitigation/Implementation Measures

Measure 15: Where possible, project development within the Specific Plan Update area shall be designed to avoid displacement or destruction of Joshua tree habitat, to the satisfaction of the Kern County Agricultural Commissioner's Office. Areas adjacent to the woodland shall have a 50-foot setback from the Joshua tree plants. Within that setback, a native plant cover should be restored to natural habitat values to serve as a bugger, if such plant cover is not present.

Measure 16: A Joshua Tree Preservation and Transportation Plan shall be developed by the applicants for each parcel where Joshua trees are located on site. The plan shall be submitted to the Kern County Agricultural Commissioner's office for review and approval to grading permit issuance.

Measure 23: A Joshua Tree Preservation and/or Transplantation Plan shall be developed by applicants of discretionary projects for each parcel where Joshua trees are located on site. The plan shall be submitted to the Kern County Agricultural Commissioner for review and approval prior to grading permit issuance.

Measure 24: Prior to issuance of any grading permits for individual projects, individual project applicants shall consult with the Regional Water Quality Control Board, State Department of Fish and Game and/or U.S. Fish and Wildlife Service, and the Army Corps of Engineers to identify potentially required permits. Compliance with this measure will be confirmed through the submittal of a letter (in conjunction with submittal of grading permit applications) to the County demonstrating compliance with the above-mentioned agencies.

Measure 25: Prior to issuance of permits, individual project applicants shall obtain appropriate permits as determined necessary by the Regional Water Quality Control Board, U.S. Fish and Wildlife Service, State Department of Fish and Game, and Army Corps of Engineers.

Air Quality Element

Goal

Goal 1: Imposition of appropriate mitigation measures to reduce where practical to do so, the effect short-term and long-term projects have on the area which involve grading activities, erosion controls, revegetation of disturbed sites, and provisions to introduce into the plan area a competitive job market to reduce travel times.

Policy

Policy 1: Compliance with the Mitigation/Implementation Measures and enactment of an approved Air Quality Attainment Plan.

Mitigation/Implementation Measures

Measure 1: To mitigate potential dust generation impacts, the Willow Springs Specific Plan Update project shall comply with applicable County regulations (to the satisfaction of the Kern County Air Pollution Control District), which require specific dust control measures.

Measure 2: During construction, all grading activities shall be ceased during periods of high winds (i.e., greater than 30 miles per hour [mph]). To assure compliance with this measure, grading activities are subject to periodic inspections by County staff.

Measure 3: Construction equipment shall be fitted with the most modern emission control devices and be kept in proper tune. Motors out of proper tune can result in emissions that vastly exceed recommended standards.

Measure MM 4: The project applicants shall, to the extent feasible, implement applicable control measures contained in the Attainment Plan in effect at the time of adoption of this Specific Plan, by the Air Pollution Control District in 1991. (See Environmental Impact Report Air Quality for additional recommended mitigation measures, page 162.).

Measure 7: All phases of the Willow Springs Specific Plan Update project shall comply with applicable rules and regulations of the Kern County Air Pollution Control District.

Biological Resources

Policies

Policy 1: Where possible, development shall be designated to avoid displacement of sensitive species.

Policy 2: Focused surveys shall be conducted by a County-approved biologist to establish the presence or absence of sensitive species.

Policy 3: Initial development within the area covered under the Willow Springs Specific Plan, when possible, will be directed towards previously impacted areas.

Cultural Resources

Goal

Goal 1: To preserve cultural resources contained on sensitive sites located within the Willow Springs Specific Plan area.

Policies

Policy 15: Require cultural resources report for those areas with high probability for prehistoric activity prior to issuance of any grading permits.

Policy 1: Archaeological investigations shall be required of specific properties proposed for development. These sites are identified in the Environmental Impact Report under Cultural Resources – Literature and Records Search, page 77, and are listed as: CA-KER-2819, 2820, 2821; CA-KER-522, 1969, 2592, 2593, 2599, 2595 and 2714; CA-KER-129, 273, 298, 302, 303. (Record on file Southern San Joaquin Valley Information Center in Bakersfield – California State University of Bakersfield. (2)

Policy 2: Recorded archaeological sites shall be subjected to individual studies prior to development.

Seismic Safety and Safety Element

Goals

Goal 7: Minimize damage to public facilities and utilities, such as water and gas mains, electric, telephone, and sewer lines, streets, and bridges located in areas of special flood hazard.

Goal 9: Comply with the requirements of the National Flood Insurance Program Regulations, Parts 59 and 60 of Title 44 of the Code of Federal Regulations.

Goal 15: To protect community residents from undue hazards and costs associated with road maintenance, slope instability, improper drainage, and inadequate sewage treatment.

Policies

Policy 1: New development within the 100-year floodplain shall be regulated in accordance with the Floodplain Management Section of the Department of Planning and Development Services according to the Flood Damage Prevention Ordinance, the Kern Land Division Ordinance, and the Kern County Zoning Ordinance as may be amended from time to time.

Policy 7: Compliance with site-specific issues, goals, policies, and implementation measures contained in the Seismic/Safety Element of the Kern County General Plan.

Mitigation/Implementation Measures

Measure 3: Areas within the 100-year floodplain shall be zoned with the appropriate FPP, FP, or FPS designation.

Measure 24: In order to combat the stormwater pollution created by the various land uses the following source control mitigation measures are required:

- a) Periodic cleaning (i.e., street sweeping) of paved areas to remove small particle size sediments with absorbed pollutants caused by uses of the area.
- b) Utilize established Best Management Practices (BMPs) for small on-site control of urban runoff water quality. These measures include infiltration trenches, infiltration basins, water quality inlets, vegetative biofilter, grass swales, and porous pavement.

Measure MM 4: New development within the 100-year floodplain shall be regulated in accordance with the Flood Damage Prevention Ordinance and the Kern County Zoning Ordinance as they may be amended from time to time.

Public Facilities Element

Goal

Goal 3: To restrict, if possible, any further and/or unnecessary drawdown of the water table within the plan area.

Policies

Policy 2: In evaluating a development application, Kern County will consider both its physical and fiscal impact on the local school district and other public facilities. If it is found that the district or facilities involved will, as a result, require additional facilities or incur costs requiring additional local revenues, the development project will be required as a condition of approval to contribute funds to the district for the costs directly attributable to the project.

Policy 4: New development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Policy 5: Operation of any solid waste facility shall comply with standards provided by the Kern County Solid Waste Management Plan.

Mitigation/Implementation Measures

Measure 6: The siting and establishment of solid waste transfer stations, landfills, recycling center, and cleanup programs shall be in accordance with Kern County's Solid Waste Management Plan.

Measure 10: New development shall contribute its pro rata share for circulation improvements, school impact fees, park land dedications/fees, and possible biota impact fees. As additional impact fees are adopted, they shall be incorporated into the Specific Plan text.

Measure 11: The school district, along with the developer, shall provide Kern County with an alternative funding method, should an alternative be submitted with an impending development.

Measure 12: The school district, along with the developer, shall provide Kern County with an alternative funding method, should an alternative be submitted with an impending development.

Measure 21: The projects shall comply with all applicable Kern County code and ordinance requirements for construction, access, water mains, fire flows, and fire hydrants.

- Measure 24: Consideration shall be given to implementation of the following measure to reduce the impacts associated with solid waste generation:
- a) Compacting refuse would substantially reduce the number of refuse hauling trips and allow for more effective and sanitary disposal.
 - b) Each project applicant shall comply with guidelines set forth by Kern County in accordance with AB 939 which mandates recycling programs for each jurisdiction in California and shall agree to be subject to universal collection for one- to four-unit residential projects and commercial.
 - c) Where feasible, a community recycling center should be implemented to provide convenient recycling opportunities.
 - d) Studies shall be conducted by Kern County prior to issuance of building permits, to determine a feasible location for an alternate landfill upon reaching capacity at Mojave-Rosamond concurrent with development approvals. County should initiate studies to site alternative landfill.
 - e) Each project applicant shall comply with guidelines set forth by Kern County in accordance with AB 939 which mandates recycling programs for each jurisdiction in California and shall agree to be subject to universal collection for one- to four-unit residential projects and commercial.
- Measure 25: The applicants are subject to school assessment fees pursuant to AB 2926.

Residential

Policies

- Policy 4: Encourage the maintenance of natural vegetation until actual construction begins.
- Policy 8: Require cultural resources report for those areas with a high probability for prehistoric activity.

Noise Element

Goals

- Goal 2: To minimize disruption to the quality of life resulting from excessive noise.
- Goal 3: To maintain reasonable noise level standards, consistent with the Kern County Noise Element.

Policies

- Policy 1: Noise emissions from new development will be controlled and off-site levels limited to the standards of the Kern County General Plan Noise Element.

Policy 3: Land uses will be categorized in the following manner, and the noise level standards adopted in accordance with the Kern County Noise Element:

Sensitive Land Uses. Noise level does not affect the successful operation of these particular activities. A wide variety of uses can be included in this category, including public utilities, transportation systems, and other noise-related uses.

Moderately Sensitive Land Uses. Some degree of noise control must be present if these activities are to be successfully carried out. Included here are general business and recreational uses.

Sensitive Uses. Lack of noise control will severely impact these uses, reducing the quality of life. This category primarily contains residential uses.

Highly Sensitive Uses. A high degree of noise control is necessary for the successful operation of these activities. Examples include hospitals and churches.

Mitigation/Implementation Measures

Measure 2: The implementation measures of the Kern County Noise Element are hereby adopted by reference.

Circulation Element

Goals

Goal 5: To maintain public safety within the plan area by providing a more direct and efficient circulation system for law enforcement and fire protection vehicles.

Goal 7: To provide an adequate circulation system which will support the proposed land uses.Policies

Policy 7: Require the widening of impacted roadways to handle increased traffic generated by new development.

Policy 8: Encourage resourceful air quality improvement and reduction methods.

Mitigation/Implementation Measures

Measure 9: A traffic study in accordance with the requirements of Kern County and CalTrans, as appropriate, shall be submitted for all discretionary projects. Study shall demonstrate consistency with the Willow Springs Specific Plan.

Measure 13: The Traffic Impact Fee Program implements Mitigation Measure 10 of the Willow Springs Final Environmental Impact Report (EIR).

Water Quality and Availability

Goal

Goal 1: To ensure that new developments are provided with an adequate water supply and wastewater disposal/treatment facilities.

Policies

- Policy 1: Water supply method and wastewater disposal/treatment facility shall be as required by Kern County.
- Policy 2: Separate environmental documentation shall be required for the methods of water supply and wastewater disposal/treatment selected.

Mitigation/Implementation Measures

Measure MM 4: The individual project applicants shall adhere to the following guidelines as established by the Department of Water Resources for flood damage prevention:

General Provision***Goal***

- Goal 9: Fire flow provisions and on-site fire protection standards (i.e., sprinklers/water storage) shall be in compliance with minimum standards provided by the Kern County Fire Department.

Kern County Zoning Ordinance

Title 19 of the Kern County Ordinance provides a description of permitted uses for the various zoning classifications within the County. The Zoning Ordinance consists of two primary parts: a Zoning Map that delineates the boundaries of zoning districts; and a Zoning Code that explains the purpose of the districts, specifies permitted and conditional uses, and establishes development and performance standards. The intent of the Zoning Code is to protect public health, safety, and the general welfare of residents and visitors in the County. Together with the Zoning Map, the Zoning Code identifies the particular uses permitted on each parcel of land in the County and sets forth regulations and standards for development to ensure that the policies, goals, and objectives of the General Plan are implemented. In addition to land use regulations, the Zoning Code contains development standards that can lessen a new structure's impacts on a location or area. These standards control the height, setbacks, parking, lot coverage, gross floor area, etc. for new structures. The Zoning Code also regulates which uses are permitted in each of the County's zoning districts to ensure compatibility between land uses.

Regional Transportation Plan

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

The intent of the SCS is to achieve the State's emissions reduction targets for automobiles and light trucks. The SCS will also provide opportunities for a stronger economy, healthier environment, and safer quality of life for community members in Kern County. The RTP/SCS seeks to: improve economic vitality; improve air quality; improve the health of communities; improve transportation and public safety; promote the conservation of natural resources and undeveloped land; increase access to community services; increase regional and local energy independence; and increase opportunities to help shape our community's future.

The 2018 RTP/SCS financial plan identifies how much money is available to support the region's transportation investments. The plan includes a core revenue forecast of existing local, State, and federal sources along with funding sources that are considered to be reasonably available over the time horizon of the RTP/SCS. These new sources include adjustments to State and federal gas tax rates based on historical trends and recommendations from two national commissions (National Surface Transportation Policy and Revenue Study Commission and National Surface Transportation Infrastructure Financing Commission), leveraging of local sales tax measures, local transportation impact fees, potential national freight program/freight fees, future State bonding programs, and mileage based user fees (Kern COG, 2018).

Kern County's Solid Waste Management Plan

The Solid Waste Management Plan is a comprehensive guide for all solid waste management activities in the County. The plan identifies the existing solid waste generation and disposal facilities in Kern County, estimates future solid waste disposal demand, and identifies programs to meet this future need.

Kern County and Incorporated Cities Hazardous Waste Management Plan

The Kern County and Incorporated Cities Hazardous Waste Management Plan focuses on the siting of hazardous waste disposal facilities, the transport of hazardous waste in the County, protection of water resources from hazardous waste contamination, and public education concerning the use and disposal of hazardous waste.

4.11.4 Impacts and Mitigation Measures

Methodology

The potential impacts associated with the project are evaluated on a qualitative basis through a comparison of the existing land use and the proposed land uses, in consideration of the applicable planning goals identified above. Compliance with the aforementioned policies is illustrated in consistency tables provided in the Project Impacts section below. The change in the land use on the project site is significant if the effect described under the thresholds of significance below occurs as a result of the project. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

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

A project could have a significant adverse effect on land use if the project would:

- a. Physically divide an established community;
- b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect;

Kern County determined in the Notice of Preparation/Initial Study (NOP/IS) that the following environmental issue areas would result in no impacts or less-than-significant 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. Physically divide an existing community

As detailed in the IS/NOP, the components of the proposed project would be installed on vacant lands. The surrounding area is also largely vacant, with limited single-family rural residential uses present. Therefore, the proposed project would not have the ability to physically divide an established community and there would be no impact. No further analysis of this issue was included in this EIR.

Project Impacts

Impact 4.11-1: The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The Kern County General Plan, Willow Springs Specific Plan, and the Kern County Zoning Ordinance establish land use policies and regulations that are applicable to the project. The following discussion evaluates the project's conformity to these plans, policies and regulations. The proposed project would require approval of Conditional Use Permits (CUPs) No. 13, Map 215; No. 41, Map 232; No. 14, Map 215; No. 42, Map 232; No. 15, Map 215; and No. 43, Map 215 from the Kern County Planning Commission for construction and operation of a 128 MW solar project.

Kern County General Plan and Willow Springs Specific Plan

Table 4.11-2, *Consistency Analysis with Kern County General Plan for Land Use*, presents an evaluation of the project's consistency with the Kern County General Plan. The table lists the goals and policies identified above in the regulatory setting and provides analysis on the project's general consistency with overarching policies. Additionally, the table provides goals and policies of issue areas that are presented in more detail in other sections of the EIR. As evaluated in detail in **Table 4.11-2**, the project is consistent with the goals and policies of the Kern County General Plan.

Table 4.11-3, *Consistency Analysis with Willow Springs Specific Plan for Land Use*, presents an evaluation of the project's consistency with the Willow Springs Specific Plan. The table lists the goals and policies

identified above in the regulatory setting and provides analysis on the project's general consistency with overarching policies. Additionally, the table provides goals and policies of issue areas that are presented in more detail in other sections of the EIR. As evaluated in detail in **Table 4.11-3**, the project is consistent with the goals and policies of the Willow Springs Specific Plan.

Kern County Zoning Ordinance

As described above, the project is subject to the provisions of the Kern County Zoning Ordinance and is included within Kern County Agricultural Preserve Number 24 boundary, as is the standard practice in Kern County for any land that is zoned A (Exclusive Agriculture), this includes the portions of the project site that are currently zoned A FP (A, Floodplain Combining), A FPS (A, Floodplain Secondary), and A WE (A, Wind Energy). As shown in **Table 4.11-1**, above, and **Figure 3-4, Existing Zoning**, in Chapter 3, *Project Description*, the Kern County Zoning Ordinance designates portions of the project site as being within the A (Exclusive Agriculture), A FP (Exclusive Agriculture – Floodplain Combining), A FPS (Exclusive Agriculture – Floodplain Secondary Combining), A GH (Exclusive Agriculture – Geologic Hazard Combining), A GH FPS (Exclusive Agriculture – Geologic Hazard Combining – Floodplain Secondary Combining), E-2.5 RS FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-5 RS FPS (Estate Residential – 5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-10 RS FPS (Estate Residential – 10 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-10 RS GH FPS (Estate Residential – 10 acres Minimum – Residential Suburban Combining – Geologic Hazard Combining – Floodplain Secondary Combining), E-10 RS MH FPS (Estate Residential – 10 acres Minimum – Mobile Home Combining – Floodplain Secondary Combining), E-20 RS FPS (Estate Residential – 20 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-20 RS GH FPS (Estate Residential – 20 acres Minimum – Residential Suburban Combining – Geologic Hazard Combining – Floodplain Secondary Combining), and PL RS FPS (Platted Lands – Residential Suburban Combining – Floodplain Secondary Combining) Zone Districts. Pursuant to Sections 19.12.020, 19.12.030, 19.64.020, 19.64.030, 19.68.020, and 19.68.030 of Kern County Zoning Ordinance, solar facilities are permitted on areas zoned for Exclusive Agriculture (A), and Exclusive Agriculture, and Exclusive Agriculture, Geologic Hazard combining, and subject to a Conditional Use Permit. The project proponent is requesting a CUP to allow for the construction and operation of a 128 MW solar facility within the aforementioned Zoning Districts in Map 216. Because the project's zoning classifications are consistent with current Kern County Zoning Ordinance land use designations which allow solar development with a CUP, the proposed project would be consistent with the its zoning classification with this discretionary approval. As such, with approval of the CUP, the proposed project would be consistent with applicable land use policies and regulations, and impacts related to consistency with the zoning ordinance would be less than significant.

West Mojave Plan Habitat Conservation Plan

The proposed project would not be built in a site or manner that interferes with the preservation, restoration or enhancement of natural communities or ecosystems. Therefore, the proposed project would not conflict with the WMPHCP and the project's impacts are considered less than significant.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance after Mitigation

Kern County

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope of analysis for this chapter is Antelope Valley. This scope was selected to analyze the cumulative impact to regional land use patterns of project development in the area, and because there is some uniformity to existing land use patterns in this region. As described in more detail in **Table 3-4, Cumulative Projects List**, in Chapter 3, *Project Description*, of this EIR, 56 projects are proposed within the geographic scope, including 13 solar projects. While the surrounding area is still relatively rural in nature, the project, along with other proposed projects, has the potential to contribute to a cumulative influence on proposed land uses in and around the project site.

The anticipated impacts of the project in conjunction with cumulative development in the area of the project would increase the urbanization and result in the loss of open space. However, potential land use impacts require evaluation on a case-by-case basis because of the interactive effects of a specific development and its immediate environment. As described in **Table 4.11-2**, the proposed project would be consistent with the goals and policies of the Kern County General Plan. In addition, with approval of the CUPs, development of solar facilities for the proposed project would be an allowable use that would not conflict with the land use or zoning classification for the project site. Therefore, as proposed the project would be consistent with the goals and policies of the Kern County General Plan and the Kern County Zoning Ordinance and would therefore not contribute to a cumulatively considerable impact regarding land use.

Furthermore, all related projects would be required to separately undergo environmental review on a case-by-case basis in accordance with the requirements of CEQA. Each related project would also be required to demonstrate consistency with all applicable planning documents governing the project site, including the Kern County General Plan the Kern County Zoning Ordinance, and any applicable Specific Plans. Should potential impacts be identified, appropriate mitigation would be prescribed that would likely reduce potential impacts to less-than-significant levels.

With regard to cumulative effects of utility-sized solar power generation facilities, there is a potential that outside factors, such as the development of newer technology, change in State or national policy that encourages the construction of such facilities, or other economic factors, could result in the abandonment of such facilities. Unlike other facilities that, once constructed, can be retrofitted and utilized for another specific use, solar power generation facilities have little opportunity for other uses should the project not be in operation. The potential for the cumulative effects caused by the abandonment of multiple solar facilities in Kern County could result in impacts on surrounding land uses should it be determined that these facilities are no longer viable commercial operations. Therefore, Mitigation Measure MM 4.11-1, which would require the implementation of a decommissioning plan to be carried out by the project proponent once the life of the project has ended, has been included to establish safeguards to ensure the maintenance of the health, safety, and welfare of the citizens of the County. While it is the intent of Kern County to promote the use of an alternative to fossil-fuel-generated electrical power in areas of the County that are identified to have suitable characteristics for production of commercial quantities of solar PV-generated electrical power, it is necessary to protect surrounding landowners from potential impacts associated with the abandonment of such facilities. Mitigation Measure MM 4.11-2 is also being included to ensure that the proposed solar facility does not interfere with the telemetry operations associated with the nearby military installations. With the implementation of Mitigation Measure MM 4.11-1 and MM 4.11-2, cumulative land use impacts would be considered less than significant.

Mitigation Measures

Kern County

MM 4.11-1: Prior to issuance of any building permit, the project operator shall provide for review and approval by the Kern County Engineering, Surveying, and Permit Services Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the deconstruction of the site as identified on the approved Decommission Plan in the event that at any point in time the project operator determines it is not in the company's best interest to operate the facility.

The financial assurance required prior to issuance of any building permit shall be established using one of the following:

- a) An irrevocable letter of credit;
- b) A surety bond;
- c) A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommission plan; or

- d) Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.

The financial institution or Surety Company shall give the County at least 120 days notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Engineering, Surveying, and Permit Services Department or County contracted consulting firm(s) at a cost to be borne by the project operator to substantiate those adequate funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommission Plan. Should the project operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance.

Once deconstruction has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommission of the site by the County shall be returned to the project operator.

Should any portion of the solar field not be in operational condition for a consecutive period of twelve 12 months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Natural Resources Department a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Natural Resources Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place for more than forty-eight (48) months from the date, the solar facility was first deemed abandoned.

- MM 4.11-2:** 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.

State Lands Commission

- MM 4.11-1:** Prior to issuance of any building permit, the project operator shall provide for review and approval by the Kern County Engineering, Surveying, and Permit Services Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the deconstruction of the site as identified

on the approved Decommission Plan in the event that at any point in time the project operator determines it is not in the company's best interest to operate the facility.

The financial assurance required prior to issuance of any building permit shall be established using one of the following:

- a) An irrevocable letter of credit;
- b) A surety bond;
- c) A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommission plan; or
- d) Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.

The financial institution or Surety Company shall give the County at least 120 days notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Engineering, Surveying, and Permit Services Department or County contracted consulting firm(s) at a cost to be borne by the project operator to substantiate those adequate funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommission Plan. Should the project operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance.

Once deconstruction has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommission of the site by the County shall be returned to the project operator.

Should any portion of the solar field not be in operational condition for a consecutive period of twelve 12 months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Natural Resources Department a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Natural Resources Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place for more than forty-eight (48) months from the date, the solar facility was first deemed abandoned.

MM 4.11-2: 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.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measure MM 4.11-1 and MM 4.11-2, cumulative impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.11-1 and MM 4.11-2, cumulative impacts would be less than significant.

Project Consistency with the Kern County General Plan

Table 4.11-2, *Consistency Analysis with Kern County General Plan Policies for Land Use*, provides summarizes the consistency of the project with all applicable goals and policies of the Kern County General Plan and relevant planning documents that are applicable to the project site.

Project Consistency with the Willow Springs Specific Plan

Table 4.11-3, *Consistency Analysis with Willow Springs Specific Plan Policies for Land Use*, provides summarizes the consistency of the project with all applicable goals and policies of the Willow Springs Specific Plan and relevant planning documents that are applicable to the project site.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
KERN COUNTY GENERAL PLAN CHAPTER 1, LAND USE, OPEN SPACE AND CONSERVATION ELEMENT		
1.3 Physical and Environmental Constraints		
<p>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.</p>	<p>Consistent with implementation of Mitigation Measure MM 4.10-1.</p>	<p>Consistent with this policy, the project would develop a solar PV power generation and storage facility that is not located on a hazardous site. See Section 4.9, <i>Hazards and Hazardous Materials</i>, of this EIR. As described in Section 4.7, <i>Geology and Soils</i>, of this EIR, the project site is not transected by a known active or potentially active fault and is not located within a State of California Alquist-Priolo Earthquake Fault Zone. In addition, construction of the proposed project would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Adherence to all applicable regulations would mitigate any potential impacts associated with fault rupture adjacent to the proposed project site. Based on the absence of any known active faults that cross, or are located in close proximity to, the project site and project compliance with applicable ordinances of the Kern County Building Code, the potential impact of fault rupture would be less than significant. Additionally, the proposed project would implement the recommendations of the final design level geotechnical report. The final report's recommendations would be consistent with the Kern County Building Code (Chapter 17.08) and the most recent version of the California Building Code. As described in Section 4.10, <i>Hydrology and Water Quality</i>, of this EIR, the project site is located within the 100-year floodplain and is classified as having a 1 percent annual chance of flooding. Implementation of Mitigation Measure MM 4.10-1 would require preparation of a drainage plan that would design project facilities to have one-foot of freeboard clearance above the calculated maximum flood depths for the solar arrays or the finished floor of any permanent structures and grading for the project would be designed so that water surface elevations during flood events would not be increased by more than one foot. Further, the project would be developed in accordance with the General Plan and Floodplain Management Ordinance. Thus,</p>

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
		final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, state and federal regulations, would ensure that the proposed project would not pose significant environmental or public health and safety hazards. As such, with implementation of mitigation measures the project would be consistent with this goal.
Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 (Seismic Hazard), Map Code 2.2 (Landslide), Map Code 2.3 (Shallow Groundwater), Map Code 2.5 (Flood Hazard), Map Codes from 2.6 – 2.9, Map Code 2.10 (Nearby Waste Facility), and Map Code 2.11 (Burn Dump Hazard)) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, of the Kern County General Plan, above.
Policy 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR. As described therein, project facilities would be designed to maintain clearance above the maximum flood depths and grading would not substantially increase flooding depths. Further, the project would be developed in accordance with the General Plan and Floodplain Management Ordinance and would implement MM 4.10-1, as described above. Therefore, the proposed project would be consistent with this policy.
Policy 10: The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR. As described therein, the project would not increase the potential for flooding beyond existing conditions. Flooding in this location would not result in a safety hazard, as the project would not establish a substantial permanent population on-site. Further, the project would be developed in accordance with the General Plan and Floodplain Management Ordinance and would implement MM 4.10-1, as described above. Therefore, the proposed project would be consistent with this policy.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 11: Protect and maintain watershed integrity within Kern County.	Consistent with implementation of Mitigation Measure MM 4.9-1.	As discussed in Section 4.10, <i>Hydrology and Water Quality</i> , the project site would implement best management practices during construction to avoid impacts to water quality. The project would also implement Mitigation Measure MM 4.9-1 which would require the project proponent to provide a Hazardous Materials Business Plan, as described in Section 4.9, <i>Hazards and Hazardous Materials</i> , of this EIR, to reduce mixing of pollutants with stormwater onsite, thereby maintaining the integrity of the watershed.
Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize permitted topographic alteration and soil erosion while maintaining soil stability.	Consistent with implementation of Mitigation Measure MM 4.10-1	The project would implement Mitigation Measure MM 4.10-1 which would require the preparation of a hydrologic study and drainage plan. The hydrologic study and drainage plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards. Since project construction would disturb well over an acre of ground, the project operator would conform to the requirements of Kern County's NPDES Program through the preparation of a SWPPP that would include erosion control and sediment control BMPs designed to prevent disturbed soils from moving offsite. The proposed project would also be required to implement a drainage plan that would minimize the potential for changes in onsite drainage patterns that could increase erosion and sedimentation (See Section 4.10, <i>Hydrology and Water Quality</i> , for more details). A grading permit would be obtained from the County prior to commencement of construction activities. According to Chapter 17.28 of the Kern County Grading Ordinance, this includes submittal of grading plans to the County for review prior to issuance of a grading permit and grading activities on the project site. County review of grading plans would ensure that appropriate erosion control measures have been implemented on site. Therefore, the proposed project would be consistent with this measure.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.	Consistent with implementation of Mitigation Measure MM 4.10-1	See Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR. The project facilities would be designed to maintain clearance above the maximum flood depths and grading would not substantially increase flooding depths. Further, the project would be developed in accordance with the General Plan, Floodplain Management Ordinance and Mitigation Measure MM 4.10-1. Therefore, the proposed project would be consistent with this measure.
Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.	Consistent with implementation of Mitigation Measure MM 4.10-1.	As described in Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR, the project site is located within the 100-year floodplain and is classified as having a 1 percent annual chance of flooding. Further, the project would be developed in accordance with the General Plan, Floodplain Management Ordinance and Mitigation Measure MM 4.10-1. Therefore, the proposed project would be consistent with this measure.
Measure J: Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See 1.3, <i>Physical and Environmental Constraints</i> , Measure H, of the Kern County General Plan, above.
Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.	Consistent	Section 4.10, <i>Hydrology and Water Quality</i> , discusses impacts related to soil-disturbing activities and required compliance with Kern County's National Pollutant Discharge Elimination System Applicability legislation, which requires projects to comply with the State Water Resources Control Board's Construction General Permit.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
1.4 Public Facilities and Services		
Goal 1: Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.	Consistent with implementation of Mitigation Measure MM 4.14-2.	As discussed in Section 4.14, <i>Public Services</i> , of this EIR, implementation of Mitigation Measure MM 4.14-2 would require the project to pay a fee assigned by the Kern County Planning and Natural Resources Department over the life of the proposed facilities in order to mitigate any potential impacts to fire or police protection services resulting from the proposed project. 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.
Goal 5: Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.	Consistent.	Public utility impacts are evaluated in Section 4.17, <i>Utilities and Service Systems</i> . As described therein, the project site is located within the Antelope Valley Groundwater Basin; as described above, the adjudication process for the Antelope Valley Groundwater Basin was completed in 2015 which established a safe yield of 110,000 AFY. Because the amount of the water required for the project would be minimal and would be obtained from an existing source with existing water rights, impacts related to water supply would be less than significant and there would be sufficient water supply for other uses in Kern County. Water supply is discussed in more detail in Section 4.17, <i>Utilities and Service Systems</i> .

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.	Consistent with implementation of Mitigation Measure MM 4.14-2.	The proposed project would construct and operate a 128 megawatt solar facility with up to 60 megawatts of battery energy storage. The proposed project would consider several options for gen-tie routes, although only one route would be constructed. All options involve the proposed project connecting to existing solar infrastructure. All infrastructure improvements associated with the proposed project would be fully funded by the project proponent. No further improvements are anticipated as a part of the project. However, should improvements be made, the project proponent would coordinate with the County to ensure that the cost of the infrastructure improvement is properly funded. Additionally, implementation of Mitigation Measure MM 4.14-2 would require the project to pay a fee assigned by the Kern County Planning and Natural Resources Department over the life of the proposed facilities in order to mitigate any potential impacts to fire or police protection services resulting from the proposed project.
Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.	Consistent with implementation of Mitigation Measure MM 4.17-1.	Public utility impacts are evaluated in Section 4.17, <i>Utilities and Service Systems</i> . As described therein, the project would have less-than-significant impacts on water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities. With the implementation of Mitigation Measure MM 4.17-1, a recycling coordinator would ensure the separation and proper disposal of recyclable materials and solid waste during construction and operation, resulting in less than significant impact to solid waste providers.
Policy 6: The County will ensure adequate fire protection to all Kern County residents.	Consistent with implementation of Mitigation Measure MM 4.14-2.	See 1.4, Public Services and Facilities, Goal 1, above.
Policy 7: The County will ensure adequate police protection to all Kern County residents.	Consistent with implementation of Mitigation Measure MM 4.14-2.	See 1.4, Public Services and Facilities, Goal 1, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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.	Consistent with implementation of Mitigation Measure MM 4.17-1.	See 1.4, Public Services and Facilities, Policy 3, above.
Measure B: Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the site of approval of the Final Map. This implementation can be effectuated by the formation of a County work group.	Consistent with implementation of Mitigation Measure MM 4.14-2	See 1.4, Public Services and Facilities, Goal 1, above.
Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.	Consistent	Project effects related to utilities are discussed in Section 4.17, <i>Utilities and Service Systems</i> , of this EIR. The project would result in less-than-significant impacts to utilities. Furthermore, the proposed project would include the development of a solar PV power generating facility that would produce approximately 128 MW of solar power and would store up to 60 MW of energy, both of which would be delivered to the grid, reducing dependence on fossil fuel based energy.
Measure D: Involve utility providers in the land use and zoning review process.	Consistent	See 1.4, Public Services and Facilities, Policy 3, above.
Measure L: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.	Consistent with implementation of Mitigation Measure MM 4.14-1 and MM 4.14-2.	Impacts to fire protection services are evaluated in Section 4.14, <i>Public Services</i> , of this EIR. Mitigation Measure MM 4.14-1 requires implementation of a fire safety plan during project construction and operation that would include notification procedures and emergency fire precautions to help reduce fire risks and the consequential need for fire protection services onsite. Mitigation Measure MM 4.14-2 requires the project proponent to pay applicable fees and taxes to reduce significant impacts to fire or police protection services resulting from the project. Thus, it is not anticipated that new or physically altered Kern County Fire Department facilities would not be required to accommodate the proposed project.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
1.8 Industrial		
Goal 3: Ensure compatibility with land use designations such as residential, commercial, or other land uses that may be affected by such activities.	Consistent	The project would be consistent with surrounding development. Land use compatibility is further discussed above in Section 4.11, <i>Land Use and Planning</i> , of this EIR.
Policy 1: Locations for new industrial activities shall be provided with adequate infrastructure (water, sewage disposal systems, roads, drainage, etc.) to minimize effects on County services.	Consistent.	See <i>1.4 Public Facilities and Services, Goal 1 and Policy 1</i> , above. See Section 4.17, <i>Utilities</i> , and Section 4.15, <i>Traffic and Transportation</i> , of this EIR for more information.
Policy 5: Provide for the clustering of new industrial development adjacent to existing industrial uses and along major transportation corridors.	Consistent.	Consistent with this policy, the project would be sited adjacent to other renewable energy projects in addition to being located in close proximity to SR 14, 138 and 58.
Policy 6: Encourage upgrading the visual character of existing industrial areas through the use of landscaping, screening, or buffering.	Mitigation Measure MM 4.1-3	As discussed in Chapter 3, <i>Project Description</i> , of this EIR, perimeter fencing would be six feet-tall around the solar facility site. In addition, as discussed in Section 4.1, <i>Aesthetics</i> , of this EIR, Mitigation Measure MM 4.1-3 requires implementation of a landscape re-vegetation and restoration plan for the project site
1.9 Resources		
Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.	Consistent	The project site is located on land that is zoned as A (Exclusive Agriculture) and implementation of the proposed project would preclude livestock grazing on the site. Other uses besides agriculture, including solar energy generation and storage, are permitted within the A District with the approval of a CUP. The project would not involve additional change in the existing environment besides those described in this Draft EIR and would not directly lead to other projects that would result in the loss of grazing land. Direct disturbance related to the project would be approximately 2,285 acres. Therefore, the proposed project would be consistent with this goal.
Goal 3: Ensure the development of resource areas minimize effects on neighboring resource lands.	Consistent	The solar facilities are compatible with open space, wind energy, and other resource management land uses. Furthermore, the placement of solar arrays at the project site may deter other urban and suburban land uses from being developed nearby.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Goal 5: Conserve prime agricultural lands from premature conversion	Consistent	As discussed in Section 4.2, <i>Agriculture and Forestry Resources</i> , the project site is not designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. Consistent with this policy, Prime Farmlands will not be affected by the proposed project.
Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.	Consistent	Consistent with this policy, the proposed project would develop a solar PV power generating facilities designed to produce approximately 128 MW of solar power and to store up to 60 MW of battery energy storage. The project would develop a clean energy source that would create fewer fossil fuel emissions; thus protecting the environment.
Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of General Plan designation.	Consistent	Impacts on natural resources are avoided or minimized through the design of the project and would not affect long term use of the site. The project implements the General Plan policy of maximizing utilization of available solar resources.
Policy 7: Areas designated for agricultural use, which include Class I and II and other enhanced agricultural soils with surface delivery water systems, should be protected from incompatible residential, commercial, and industrial subdivision and development activities.	Consistent	See 1.9, <i>Resource</i> , Goal 5, of the Kern County General Plan, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.	Consistent with implementation of Mitigation Measure MM 4.10-1.	As discussed in Section 4.10, <i>Hydrology and Water Quality</i> , 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 (LID) features such as drainage swales for collection of runoff prior to offsite discharge. Routine structural BMPs are intended to address water quality impacts related to drainage that are inherent in development. As discussed in Section 4.10, <i>Hydrology and Water Quality</i> , the proposed project would likely require one or more 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 MM 4.10-1, which requires a final hydrologic study and drainage plan designed to evaluate and minimize potential increases in runoff from the project site.
Policy 12: Areas identified by the Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service) as having high range-site value should be conserved for Extensive Agriculture uses or as Resource Reserve, if located within a County water district.	Consistent	See 1.9, Resource, Goal 5, of the Kern County General Plan, above.
Measure F: Prime agricultural lands, according to the Kern County Interim-Important Farmland 2000 map produced by the Department of Conservation, which have Class I or II soils and a surface delivery water system shall be conserved through the use of agricultural zoning with minimum parcel size provisions.	Consistent	As discussed in Section 4.2, <i>Agriculture and Forestry Resources</i> , the project site does not contain any prime farmland identified by the California Department of Conservation. Consistent with this policy, no prime agricultural lands, which have Class I or II soils and a surface delivery water system, would be impacted by the proposed project.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
1.10 General Provisions		
Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.	Consistent	Consistent with this policy, the proposed project would develop a solar PV power generating facilities that are not located on a hazardous site. The project would develop a clean energy source that reduce fossil fuel emissions; thereby reducing GHG emissions, preserving natural resources, and promoting a safe and healthful environment.
1.10.1 Public Services and Facilities		
Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.	Consistent with implementation of Mitigation Measure MM 4.14-2.	See 1.4, <i>Public Facilities and Services</i> , Goal 1, above. Impacts to public services are evaluated in Section 4.14, <i>Public Services</i> , of this EIR.
Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.	Consistent	Public service impacts are evaluated in Section 4.14, <i>Public Services</i> , of this EIR. This EIR serves to comply with this policy.
Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.	Consistent	See 1.4, <i>Public Facilities and Services</i> , Goal 1 and Policy 1, above.
Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.	Consistent	See 1.4, <i>Public Facilities and Services</i> , Policy 3, above.
Measure D: Involve utility providers in the land use and zoning review process.	Consistent	See 1.4, <i>Public Facilities and Services</i> , Policy 3, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
<p>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.</p>	Consistent	<p>Water and wastewater impacts are evaluated in Section 4.10, <i>Hydrology and Water Quality</i>, and Section 4.17, <i>Utilities and Service Systems</i>, of this EIR. The proposed project would require a septic system to be built within the O&M facility in order to provide non-potable water for the estimated 12 full-time employees that would be at the facility. This septic system would treat sewage and would provide limited recharge to the nearby aquifer. This septic system would be constructed in accordance with Kern County Department of Public Health requirements. No offsite sewage or 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.</p>
1.10.2 Air Quality		
<p>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.</p>	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-3.	<p>Air quality and GHG impacts are evaluated in Sections 4.3, <i>Air Quality</i>, and 4.8, <i>Greenhouse Gas Emissions</i>, of this EIR. Consistent with this policy, the proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-3, which would reduce impacts to air quality to the extent feasible. Air quality mitigation measures include diesel emission-reduction measures during construction, fugitive dust control measures, and Valley Fever exposure minimization measures.</p>

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
<p>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:</p> <p>(1) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and</p> <p>(2) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.</p>	Consistent	See 1.10.2, <i>Air Quality</i> , Policy 18, above. This EIR serves to comply with this policy.
<p>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.</p>	Consistent with implementation of Mitigation Measures MM 4.3-2	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. As discussed therein, implementation of Mitigation Measure MM 4.3-2 would further reduce fugitive dust emissions during construction and operation, in compliance with the adopted rules and regulations of the Eastern Kern County Air Pollution Control District on ministerial permits.
<p>Policy 21: The County shall support air districts efforts to reduce PM₁₀ and PM_{2.5} emissions.</p>	Consistent with implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2.	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. As discussed in that section, implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 would further reduce PM ₁₀ and PM _{2.5} emissions during construction and operation.
<p>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.</p>	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-3.	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. Consistent with this policy, the proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-3, which would reduce impacts to air quality to the extent feasible. The project would be in compliance with all applicable Eastern Kern County Air Pollution Control District, rules and regulations.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.	Consistent	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. Consistent with this measure, the necessary discretionary permits shall be referred to the Eastern Kern Air Pollution Control District for review and comment.
Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to: a. Minimizing idling time. b. Electrical overnight plug-ins.	Consistent with implementation of Mitigation Measures MM 4.3-1	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. Consistent with this measure, implementation of Mitigation Measure MM 4.3-1 would require diesel exhaust reduction strategies.
Measure H: Discretionary projects may use one or more of the following to reduce air quality effects: a. Pave dirt roads within the development. b. Pave outside storage areas. c. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans. d. Use of alternative fuel fleet vehicles or hybrid vehicles. e. Use of emission control devices on diesel equipment. f. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces. g. Provide bicycle lockers and shower facilities on site. h. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86). i. The use and development of park and ride facilities in outlying areas. j. Other strategies that may be recommended by the local Air Pollution Control Districts.	Consistent with implementation of Mitigation MM 4.3-1 and MM 4.3-2.	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. Consistent with this measure, implementation of Mitigation Measures MM 4.3-1 through MM 4.3-2 would further reduce adverse air quality effects.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure J: The County should include PM10 control measures as conditions of approval for subdivision maps, site plans, and grading permits.	Consistent with implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2.	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. As discussed in that section, implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 would further reduce PM ₁₀ and PM _{2.5} emissions during construction and operation.
1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation		
Policy 25: The County will promote the preservation of cultural and historic resources which provide ties with the past and constitute a heritage value to residents and visitors.	Consistent with implementation of Mitigation Measures MM 4.5-1, MM 4.5-2, MM 4.5-3, and MM 4.5-4.	Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this EIR. This EIR serves to comply with this policy and includes Mitigation Measures MM 4.5-1 through MM 4.5-4 to promote the preservation of cultural and historic resources where necessary.
Measure K: Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.	Consistent Mitigation Measures MM 4.5-2.	Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this EIR. Consistent with this measure, copies of reports will be provided to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield, per Mitigation Measure MM 4.5-2.
Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.	Consistent with implementation of Mitigation Measures MM 4.5-1 and MM 4.5-2.	Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this EIR. Consistent with this measure, impacts to archaeological and historical resources are evaluated in accordance with CEQA. This EIR serves to comply with this policy.
Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.	Consistent with implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3	Paleontological resource impacts are evaluated in Section 4.7, <i>Geology and Soils</i> , of this EIR. Mitigation Measures MM 4.7-1 through MM 4.7-3 which would reduce potential impacts to known paleontological resources through hiring a qualified paleontologist shall be retained to monitor all ground-disturbing activity, document, and implement measures as needed.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure N: The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.	Consistent.	Tribal Cultural resource impacts are evaluated in Section 4.16, <i>Tribal Cultural Resources</i> . Consistent with this measure, notification regarding the proposed project would be accomplished in accordance with the established procedures for discretionary projects and CEQA documents.
Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.	Consistent with implementation of Mitigation Measure MM 4.5-1.	Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this EIR. This EIR serves to comply with this measure and includes Mitigation Measure MM 4.5-1, which would require consultation with the Native American monitor(s) to conduct a Cultural Resources Sensitivity Training for all personnel working on the proposed project.
1.10.5 Threatened and Endangered Species		
Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and federal laws.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14.	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. This EIR serves to comply with this policy and reduce potential impacts with mitigation. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of sensitive species.
Policy 28: County should work closely with State and federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14.	Biological Resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. This EIR serves to comply with this policy and reduce potential impacts with mitigation. As part of the biological resources evaluation and habitat assessment conducted for the project, relevant state and federal agencies were contacted to ensure that appropriate information about the project site were being gathered. Specifically, an NOP of this EIR was sent to state and federal agencies requesting their input on the biological resource evaluation. Similarly, this EIR will also be circulated to these agencies, and staff will have the opportunity to comment on the biological resources evaluation. Therefore, the County is complying with this policy for the project.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 29: The County will seek cooperative efforts with local, State, and federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.	Consistent with implementation of Mitigation Measures MM 4.4-1 and MM 4.4-14.	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. The project site is located within the Willow Springs Specific Plan Area. Consistency with the applicable policies of the Willow Springs Specific Plan Area are discussed below. The project site is also located within the boundaries of the Desert Renewable Energy Conservation Plan (DRECP) as discussed under Impact 4.11-1, above. Additionally, implementation of Mitigation Measures MM 4.4-1 and MM 4.4-16 would further increase cooperative efforts with local, State, and federal agencies to support threatened and endangered plant and wildlife.
Policy 31: Under the provisions of the California Environmental Quality Act, the County, as lead agency, will solicit comments from the California Department of Fish and Game and the U.S. Fish and Wildlife Service when an environmental document is prepared.	Consistent	See 1.10.5, <i>Threatened and Endangered Species</i> , Policy 28, above.
Policy 32: Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.	Consistent with implementation of Mitigation Measure MM 4.4-14.	Biological resource impacts and impacts to riparian areas, are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. Consistent with this measure, Mitigation Measure MM 4.4-14 would require consultation with the California Department of Fish and Wildlife. The County will respond to all comments from reviewing agencies during the CEQA process.
Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.	Consistent	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. Consistent with this measure, the evaluation of impacts to biological resources was performed in accordance with CEQA.
Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.	Consistent with implementation of Mitigation Measure MM 4.4-1 through MM 4.4-14.	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , 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.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
1.10.6 Surface Water and Groundwater		
Policy 34: Ensure that water quality standards are met for existing users and future development.	Consistent with implementation of Mitigation measures MM 4.10-1.	Water quality impacts are evaluated in Section 4.10, <i>Hydrology and Water Quality</i> . Consistent with this policy, the proposed project would implement best management practices during construction to avoid impacts to water quality. The project would also implement a Hazardous Materials Business Plan to reduce mixing of pollutants with stormwater onsite, thereby maintaining the integrity of the watershed.
Policy 41: Review development proposals to ensure adequate water is available to accommodate projected growth.	Consistent	See 1.4, <i>Public Facilities and Services</i> , Goal 5, above.
Policy 43: Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See 1.9, <i>Resources</i> , Policy 11, above.
Policy 44: Discretionary projects shall analyze watershed impacts and mitigate for construction-related and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act (CEQA), to prevent the degradation of the watershed to the extent practical.	Consistent with implementation of Mitigation Measures MM 4.10-1.	Section 4.10-1, <i>Hydrology and Water Quality</i> , discusses impacts and mitigation for potential impacts to the watershed during construction from pollutants, alteration of flow patterns, and changes in impervious surfaces. Consistent with this policy, construction-related impacts related to alteration of flow patterns and impervious surfaces would be less than significant.
Measure Y: Promote efficient water use by utilizing measures such as: (i) Requiring water-conserving design and equipment in new construction; (ii) Encouraging water-conserving landscaping and irrigation methods; and (iii) Encouraging the retrofitting of existing development with water conserving devices.	Consistent.	See 1.4, <i>Public Facilities and Services</i> , Goal 5, above.
1.10.7 Light and Glare		
Policy 47: Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.	Consistent with implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6.	Aesthetic impacts are evaluated in Section 4.1, <i>Aesthetics</i> , of this EIR. This EIR serves to comply with this policy and reduce potential impacts through implementation of mitigation measures.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 48: Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.	Consistent with implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6.	See 1.10.7, <i>Light and Glare</i> , Policy 47, above.
Measure AA: The County shall utilize CEQA Guidelines and the provisions of the Zoning Ordinance to minimize the impacts of light and glare on adjacent properties and in rural undeveloped areas.	Consistent with implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6.	See 1.10.7, <i>Light and Glare</i> , Policy 47, above.
CHAPTER 2 CIRCULATION ELEMENT		
2.1 Introduction		
Goal 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, of the Kern County General Plan, above.
Goal 5: Maintain a minimum [level of service] LOS D for all roads throughout the County.	Consistent	Traffic impacts are evaluated in Section 4.15, <i>Transportation</i> , of this EIR. Consistent with this goal, the proposed project would maintain a minimum LOS C or better for all roads throughout the County.
2.3.3 Highways Plan		
Goal 5: Maintain a minimum Level of Service (LOS) D.	Consistent	Traffic impacts are evaluated in Section 4.15, <i>Transportation</i> , of this EIR. Consistent with this goal, the proposed project would maintain a minimum LOS C or better for all roads throughout the County.
Policy 1: Development of roads within the County shall be in accordance with the Circulation Diagram Map. The charted roads are usually on section and mid-section lines. This is because the road center line can be determined by an existing survey.	Consistent	Section 4.15, <i>Transportation</i> , of this EIR provides a discussion of County circulation consistency. The project would include internal service roads. Consistent with this policy, all road improvements would be completed per Caltrans and/or County code and regulations. If access roads need to be built along lines other than those on the circulation diagram map, the project proponent would negotiate necessary easements to allow this, in accordance with the County.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
<p>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.</p> <p>Expressway [Four Travel Lanes] Minimum 110-foot right-of-way;</p> <p>Arterial [Major Highway] Minimum 110-foot right-of-way;</p> <p>Collector [Secondary Highway] Minimum 90-foot right-of-way;</p> <p>Commercial-Industrial Street Minimum 60-foot right-of-way;</p> <p>and</p> <p>Local Street [Select Local Road] Minimum 60-foot right-of-way.</p>	Consistent	Traffic impacts are evaluated in Section 4.15, <i>Transportation</i> , of this EIR. Consistent with this measure, the proposed project would be in compliance with the road network policies and would implement the Kern County Development Standards as they relate to road standards and planning requirements.
<p>Measure A: The Planning Department shall carry out the road network Policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. Planning Department can help developers and property owners in identifying where planned circulation is to occur.</p>	Consistent	See 2.3.3, <i>Highway Plan</i> , Policy 3, of the Kern County General Plan, above.
2.3.4 Future Growth		
<p>Goal 1: To provide ample flexibility in this plan to allow for growth beyond the 20-year planning horizon.</p>	Consistent	See 2.3.3, <i>Highway Plan</i> , Policy 3, of the Kern County General Plan, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 2: The County should monitor development applications as they relate to traffic estimates developed for this plan. Mitigation is required if development causes affected roadways to fall below Level of Service (LOS) D. Utilization of the CEQA process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space and Conservation Element to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build offsite transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.	Consistent with implementation of Mitigation Measure MM 4.15-1	Traffic impacts are evaluated in Section 4.15, <i>Transportation</i> , of this EIR. Consistent with this policy, the proposed project would maintain a minimum LOS C for all roads throughout the County. Additionally, implementation of Mitigation Measure MM 4.15-1 would require the preparation of a Construction Traffic Control Plan to be reviewed and approved by Kern County and Caltrans, which would further reduce impacts to traffic and transportation.
Policy 4: As a condition of private development approval, developers shall build roads needed to access the existing road network. Developers shall build these roads to County standards unless improvements along State routes are necessary then roads shall be built to Caltrans standards. Developers shall locate these roads (width to be determined by the Circulation Plan) along centerlines shown on the circulation diagram map unless otherwise authorized by an approved Specific Plan Line. Developers may build local roads along lines other than those on the circulation diagram map. Developers would negotiate necessary easements to allow this.	Consistent	See 2.3.3, <i>Highway Plan</i> , Policy 1, above.
Policy 5: When there is a legal lot of record, improvement of access to County, city or State roads will require funding by sources other than the County. Funding could be by starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.	Consistent	Consistent with this policy, the project proponent would fund improvements to driveways that provide access to any County, city, or State roads.
Policy 6: The County may accept a developer's road into the county's maintained road system. This is at Kern County's discretion. Acceptance would occur after the developer follows the above requirements. Roads are included in the County road maintenance system through approval by the Board of Supervisors.	Consistent	The proposed project would not develop a public road. However, consistent with this policy, the project proponent would be required to negotiate approval with the County where any proposed private access driveways would intersect public right-of-way.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure C: Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.	Consistent	Traffic impacts are evaluated in Section 4.15, <i>Transportation</i> , of this EIR. Consistent with this policy, the proposed project would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.
2.3.6 Vacation of Existing or Recorded Future Streets, Highways, or Public Easements		
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.	Consistent.	As discussed in Chapter 3, <i>Project Description</i> , of this EIR, the project has requested approval of General Plan Amendments to the Circulation Element. Removal of Road Reservation and proposed vacations of public access easements on the project site from the Kern County Board of Supervisors. With the approval of the General Plan Amendment to the Circulation Element: Removal of Road Reservation and the proposed vacations, the proposed project is consistent with this goal.
Policy 1: A road vacation influencing the construction or operation of expressway, an arterials or collector highway may occur with, or after, amending this Element. Kern County will not vacate any public expressway, arterial or collector highway right-of-way without amendment to this Element. The County will need to amend the right-of way status to local or commercial-industrial streets.	Consistent.	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
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.	Consistent.	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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.	Consistent.	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.</i>
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.	Consistent.	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.</i>
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.	Consistent.	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.</i>
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.	Consistent.	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.</i>
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.	Consistent.	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.</i>
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.	Consistent.	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.</i>

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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.	Consistent.	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.</i>
Policy 10: A road vacation may be approved if there is an agreement to close a public street. A road vacation may be approved with acknowledgment of an impassable street. A road vacation may be approved with a land division map over the area of vacation if the project has comparable methods of vehicular access.	Consistent.	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.</i>
Policy 11: A road vacation procedure may be used for considering public service easement or utility service easement abandonments. The procedure is the same as any public right-of-way vacation.	Consistent.	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.</i>
Policy 12: A vacation of improved road right-of-way, or public service easement, should not occur until the lead agency makes findings. One important finding is the land is no longer needed for public use. A vacation of improved road right-of-way, or public service easement, should not occur until the right-of-way is superseded by relocation, and improved to acceptable Kern County Development standards. The Board of Supervisors shall have accepted the replacement facility into the maintained road system.	Consistent.	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.</i>
Policy 13: A general vacation proceeding (consistent with State of California Streets and Highway Code) will require a public hearing when the vacation affects existing in place facilities or is a project caused by relocating right-of-way.	Consistent.	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.</i>

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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.	Consistent.	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
2.3.10 Congestion Management Programs		
Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern Council of Government's Congestion Management Program.	Consistent	Traffic impacts are evaluated in Section 4.15, <i>Transportation</i> , of this EIR. Consistent with this goal, the proposed project would comply with the requirements of the Kern Council of Government's Congestion Management Program.
2.5.1 Trucks and Highways		
Goal 1: Provide for Kern County's heavy truck transportation in the safest way possible.	Consistent	Traffic impacts are evaluated in Section 4.15, <i>Transportation</i> , of this EIR. Consistent with this policy, the proposed project would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards, which would ensure the provision of heavy truck transportation resulting from project implementation, in the safest way possible.
Goal 2: Reduce potential overweight trucks.	Consistent	See 2.5.1, <i>Trucks and Highways</i> , Goal 1, above.
Goal 3: Use State Highway System improvements to prevent truck traffic in neighborhoods.	Consistent	See 2.5.1, <i>Trucks and Highways</i> , Goal 1, above.
Policy 1: Caltrans should be made aware of the heavy truck activity on Kern County's roads.	Consistent	As discussed in Section 4.15, <i>Transportation</i> of this EIR, coordination and consultation with Caltrans is ongoing throughout the project's lifetime, consistent with this policy.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
2.5.4 Transportation of Hazardous Materials		
Goal 1: Reduce risk to public health from transportation of hazardous materials.	Consistent with implementation of Mitigation Measure MM 4.9-1.	Section 4.9, <i>Hazards and Hazardous Materials</i> , 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 MM 4.9-1, which requires the preparation of a hazardous materials business plan that would describe proper handling, storage, transport, and disposal techniques and methods to be used to avoid spills and minimize impacts in the event of a spill, would ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to maintenance workers and/or the public.
Policy 1: The commercial transportation of hazardous material, identification and designation of appropriate shipping routes will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.	Consistent with implementation of Mitigation Measure MM 4.9-1.	See 2.5.4, <i>Transportation of Hazardous Materials</i> , Goal 1, above.
KERN COUNTY GENERAL PLAN CHAPTER 3, NOISE ELEMENT		
3.3 Sensitive Noise Areas		
Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.	Consistent.	Noise impacts, sensitive receptors and County noise thresholds are evaluated in Section 4.12, <i>Noise</i> , of this EIR. As discussed in that section, the proposed project would not cause significant impacts to sensitive receptors. Thus, the project would be consistent with this goal.
Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.	Consistent	This section 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 designations of the project site.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.	Consistent.	See 3.3, <i>Sensitive Noise Areas</i> , Goal 1, above.
Policy 2: Require noise level criteria applied to all categories of land uses to be consistent with the recommendations of the California Division of Occupational Safety and Health.	Consistent.	See 3.3, <i>Sensitive Noise Areas</i> , Goal 1, above.
Policy 3: Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise.	Consistent.	See 3.3, <i>Sensitive Noise Areas</i> , Goal 1, above. Consistent with this policy the project would be encouraged to provide vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise.
Policy 4: 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 Section 4.12, <i>Noise</i> , of this EIR.
Policy 7: Employ the best available methods of noise control.	Consistent	See 3.3, <i>Sensitive Noise Areas</i> , Goal 1, above.
Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.	Consistent	This section 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.
Measure C: Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policies outlined in this element.	Consistent	Consistent with this measure, the proposed project will be reviewed for conformance with the policies outlined in this element.
Measure F: Require proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dB L _{dn} and interior noise levels in excess of 45 dB L _{dn} .	Consistent.	See 3.3, <i>Sensitive Noise Areas</i> , Goal 1 and Measure A, of the Kern County General Plan.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
<p>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:</p> <ul style="list-style-type: none"> a) Be the responsibility of the applicant. b) Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics. c) Be subject to the review and approval of the Kern County Planning Department and the Environmental Health Services Department. All recommendations therein shall be complied with prior to final approval of the project 	Consistent	<p>Consistent with this measure, the proposed project will prepare an acoustical analysis in accordance with the requirements of Chapter 3, <i>Noise Element</i>, Measure G, of the Kern County General Plan.</p>
<p>Measure I: Noise analyses shall include recommended mitigation, if required, and shall:</p> <ul style="list-style-type: none"> 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. 	Consistent.	<p>Consistent with this measure, a noise assessment was conducted for the proposed project and is referenced in Section 4.12, <i>Noise</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>

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure J: Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.	Consistent.	Consistent with this measure, the recommendations and requirements imposed pursuant to the findings of the acoustical analysis would be included with project implementation.
KERN COUNTY GENERAL PLAN CHAPTER 4, SAFETY ELEMENT		
4.1 Introduction		
Goal 1: Minimize injuries and loss of life and reduce property damage.	Consistent	Consistent with this goal, the project would be required to comply with adopted safety regulations, such as the Fire Code, and related policies in the General Plan.
4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint		
Measure A: All hazards (geologic, fire, and flood) should be considered whenever a Planning Commission or Board of Supervisor's action could involve the establishment of a land use activity susceptible to such hazards.	Consistent	Section 4.7, <i>Geology and Soils</i> , of this EIR, discusses potential geologic hazards, Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR, discusses potential flood hazards, and Section 4.18, <i>Wildfire</i> , of this EIR discusses potential fire hazards as a result of project implementation. Consistent with this measure, all hazards have been considered as part of this analysis.
Measure F: The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by the Federal Emergency Management Agency (FEMA), shall be used as a source document for preparation of environmental documents pursuant to the California Environmental Quality Act (CEQA), evaluation of project proposals, formulation of potential mitigation, and identification of specific actions that could, if implemented, mitigate impacts from future disasters and other threats to public safety.	Consistent	Consistent with this policy, the proposed project would not include development for human occupancy, and would not be located near an active earthquake fault.
4.3 Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure		
Policy 1: The County shall require development for human occupancy to be placed in a location away from an active earthquake fault in order to minimize safety concerns.	Consistent	Consistent with this policy, the proposed project would not include development for human occupancy, and would not be located near an active earthquake fault.
Measure B: Require geological and soils engineering investigations in identified significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Measure D, of the Kern County General Plan, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, of the Kern County General Plan, above.
4.5 Landslides, Subsidence, Seiche, and Liquefaction		
Policy 1: Determine the liquefaction potential at sites in areas of shallow groundwater (Map Code 2.3) prior to discretionary development and determine specific mitigation to be incorporated into the foundation design, as necessary, to prevent or reduce damage from liquefaction in an earthquake.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, of the Kern County General Plan, above.
Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.	Consistent	As discussed in Section 4.7, <i>Geology and Soils</i> , conditions for landslides are also not present at the site which is characterized by relatively gradual inclines across the site. Grading would be subject to compliance with the NPDES General Construction Permit requirements and 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 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 (ICF 2019). See Section 4.7, <i>Geology and Soils</i> .
4.6 Wildland and Urban Fire		
Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.	Consistent with implementation of Mitigation Measure MM 4.14-1 and Mitigation Measure MM 4.14-2.	Consistent with this policy, impacts on emergency services and facilities are discussed and evaluated in Section 4.14, <i>Public Services</i> , of this EIR.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 3: The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.	Consistent with implementation of Mitigation Measure MM 4.14-1.	The project would not interfere or prohibit the County's ability to meet this policy. Mitigation Measure MM 4.14-1 requires the proponent to develop a fire safety plan for use during construction and operational activities. All onsite employees would be trained on fire safety and how to respond to onsite fires, should they occur. See Sections 4.9, <i>Hazards and Hazardous Materials</i> , and 4.14, <i>Public Services</i> , and 4.18, <i>Wildfire</i> , of this EIR.
Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.	Consistent with implementation of Mitigation Measure MM 4.15-1.	Section 4.15, <i>Transportation</i> , of this EIR includes Mitigation Measure MM 4.15-1 would require the approval of a Construction Traffic Control Plan, encroachments and or other necessary permits by Caltrans and/or the Kern County Roads Dept. The project proponent would develop and implement a fire safety plan for use during construction and operation.
Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.	Consistent with implementation of Mitigation Measure MM 4.14-1.	Consistent with this policy, the project would be required to comply with the adopted Fire Code and the requirements of the Kern County Fire Department.
Measure A: Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.	Consistent with implementation of Mitigation Measure MM 4.14-1 and MM 4.14-2.	Consistent with this measure, the proposed project would implement Mitigation Measure MM 4.14-1, which would require preparation and implementation of a fire safety plan to ensure the provision of appropriate access. Additionally, the project would implement Mitigation Measure MM 4.14-2, which would require the project to compensate the county for any deficiencies in service resulting from project construction and operation.
4.9 Hazardous Materials		
Measure A: Facilities used to manufacture, store, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent onsite hazards from affecting surrounding communities in the event of inundation.	Consistent with implementation of Mitigation Measure MM 4.14-1.	See 4.6, <i>Wildland and Urban Fire</i> , Policy 6, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
KERN COUNTY GENERAL PLAN CHAPTER 5, ENERGY ELEMENT		
5.2 Importance of Energy to Kern County		
Policy 8: The County should work closely with local, state, and federal agencies to assure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts to fish, wildlife, and botanical resources, wherever practical.	Consistent	See 1.10.5, <i>Threatened and Endangered Species</i> , Policy 28, above.
Policy 10: The County should require acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses in accordance with the Noise Element of the General Plan.	Consistent	See 3.3, <i>Sensitive Noise Areas</i> , Goal 1, above.
5.4.5 Solar Energy Development		
Goal 1: Encourage safe and orderly commercial solar development.	Consistent	Consistent with this goal, the proposed project would develop solar PV facilities that would generate 128 MW of solar energy and 60 MW of battery energy storage, and would offset an equivalent amount of fossil fuel-generated electrical power. The site is on vacant land, and is located at a distance from established communities. The location of the site would ensure a safe and orderly development of the solar facilities.
Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.	+Consistent	Consistent with this policy, the proposed project would develop solar PV facilities capable of generating 128 MW of solar energy and 60 MW of battery energy storage, and would offset an equivalent amount of fossil fuel-generated electrical power in the desert region of Kern County. Operation of the proposed project would improve air quality within the County and assist the County in meeting attainment goals. See Section 4.3, <i>Air Quality</i> , of this EIR.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.	Consistent	Consistent with this policy, the project proposes the development of PV power generation and storage facilities in the 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.
Policy 4: The County shall encourage solar development in the desert and valley regions previously disturbed, and discourage the development of energy projects on undisturbed land supporting state or federally protected plant and wildlife species.	Consistent	Consistent with this policy, the project proposes the development of PV power generation and storage facilities in the 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.
5.4.7 Transmission Lines		
Goal 1: To encourage the safe and orderly development of transmission lines to access Kern County's electrical resources along routes, which minimize potential adverse environmental effects.	Consistent	Final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, state and federal regulations, would ensure that the proposed project's transmission lines would not pose significant environmental or public health and safety hazards.
Policy 5: The County should discourage the siting of above-ground transmission lines in visually sensitive areas.	Consistent	See 5.4.7, Transmission Lines, Goal 1, above. Further, visual impacts are evaluated in Section 4.1, <i>Aesthetics</i> , of this EIR.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
WILLOW SPRINGS SPECIFIC PLAN		
Air Quality		
Goal 1: Imposition of appropriate mitigation measures to reduce where practical to do so, the effect short-term and long-term projects have on the area which involve grading activities, erosion controls, revegetation of disturbed sites, and provisions to introduce into the plan area a competitive job market to reduce travel times.	Consistent	Air quality and GHG impacts are evaluated in Sections 4.3, <i>Air Quality</i> , and 4.8, <i>Greenhouse Gas Emissions</i> , of this EIR. Consistent with this policy, the proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-3, which would reduce impacts to air quality to the extent feasible. Air quality mitigation measures include diesel emission-reduction measures during construction, fugitive dust control measures, and Valley Fever exposure minimization measures.
Policy 1: Compliance with the Mitigation/Implementation Measures and enactment of an approved Air Quality Attainment Plan.	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-3.	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. Consistent with this policy, the proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-3, which would reduce impacts to air quality to the extent feasible. The project would be in compliance with all applicable Eastern Kern County Air Pollution Control District, rules and regulations.
Measure 1: To mitigate potential dust generation impacts, the Willow Springs Specific Plan Update project shall comply with applicable County regulations (to the satisfaction of the Kern County Air Pollution Control District), which require specific dust control measures.	Consistent with implementation of Mitigation Measure MM 4.3-2.	The project would implement Mitigation Measures MM 4.3-2 which would require the implementation of a Fugitive Dust Control Plan prior to the issuance of grading or building permits in order to control fugitive PM emissions during construction. See Section 4.3, <i>Air Quality</i> , of this EIR.
Measure 2: During construction, all grading activities shall be ceased during periods of high winds (i.e., greater than 30 miles per hour [mph]). To assure compliance with this measure, grading activities are subject to periodic inspections by County staff.	Consistent	The project would adhere to Chapter 17.28 of the Kern County Code, which regulates grading within the County. Specifically, the project would adhere to Section 17.28.180 (Grading Inspection), which requires that grading operations must be inspected by the building official.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 3: Construction equipment shall be fitted with the most modern emission control devices and be kept in proper tune. Motors out of proper tune can result in emissions that vastly exceed recommended standards.	Consistent with implementation of Mitigation Measure MM 4.3-1.	The project would implement Mitigation Measure MM 4.3-1, which is intended to limit diesel emission reductions during construction. Mitigation Measure MM 4.3-1 would require that off-road equipment engines over 25 horsepower be equipped with EPA Tier 3 or higher engines if locally available. Mitigation Measure MM 4.3-1 also outlines other specific measures to ensure that all equipment is used efficiently, such as reducing idling time and maintain all equipment in accordance with the manufacturer's specifications. See Section 4.3, <i>Air Quality</i> , of this EIR.
Measure MM 4: The project applicants shall, to the extent feasible, implement applicable control measures contained in the Attainment Plan in effect at the time of adoption of this Specific Plan, by the Air Pollution Control District in 1991. (See Environmental Impact Report Air Quality for additional recommended mitigation measures, page 162.).	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-3.	See Air Quality, Policy 1, above. Further, air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR.
Measure 7: All phases of the Willow Springs Specific Plan Update project shall comply with applicable rules and regulations of the Kern County Air Pollution Control District.	Consistent	The project would implement Mitigation Measures MM 4.3-2 which would require the implementation of a Fugitive Dust Control Plan prior to the issuance of grading or building permits in order to control fugitive PM emissions during construction. See Section 4.3, <i>Air Quality</i> , of this EIR.
Biological Resources		
Policy 1: Where possible, development shall be designated to avoid displacement of sensitive species.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14.	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. This EIR serves to comply with this policy and reduce potential impacts with mitigation. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of sensitive species.
Policy 2: Focused surveys shall be conducted by a County-approved biologist to establish the presence or absence of sensitive species.	Consistent	As discussed in Section 4.4, <i>Biological Resources</i> , of this EIR focused surveys were conducted at the project site for multiple species.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 3: Initial development within the area covered under the Willow Springs Specific Plan, when possible, will be directed towards previously impacted areas.	Consistent with implementation of Mitigation Measure MM 4.4-4.	As discussed in Section 4.4, <i>Biological Resources</i> , of this EIR during construction, operations and maintenance, and decommissioning, the project proponent/operator and/or contractor(s) shall implement the general avoidance and protective measures, which includes containing vehicle traffic within the planned impact area or in previously disturbed areas.
Circulation Element		
Goal 5: To maintain public safety within the plan area by providing a more direct and efficient circulation system for law enforcement and fire protection vehicles.	Consistent with implementation of Mitigation Measure MM 4.15-1.	Section 4.15, <i>Transportation</i> , of this EIR provides a discussion of circulation and preparation of a Traffic Control Plan. The project would include internal service roads. Consistent with this goal, all road improvements would be completed per Caltrans and/or County code and regulations. Additionally, Mitigation Measure MM 4.15-1, states that the Traffic Control Plan would ensure access for emergency vehicles to the project sites.
Goal 7: To provide an adequate circulation system which will support the proposed land uses.	Consistent with implementation of Mitigation Measure MM 4.15-1.	See Circulation Element, Goal 5, above. Further, transportation and circulation impacts are evaluated in Section 4.15, <i>Transportation</i> , of this EIR.
Policy 7: Require the widening of impacted roadways to handle increased traffic generated by new development.	Consistent with implementation of Mitigation Measure MM 4.15-1.	Traffic impacts are evaluated in Section 4.15, <i>Transportation</i> , of this EIR. The increased project-related traffic would not cause a significant increase in congestion and or significantly worsen the existing service levels at intersections on area roads, therefore not necessitating the widening of roadways. Additionally, implementation of Mitigation Measure MM 4.15-1 would require the preparation of a Construction Traffic Control Plan to be reviewed and approved by Kern County and Caltrans, which would further reduce impacts to traffic and transportation.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 8: Encourage resourceful air quality improvement and reduction methods.	Consistent with implementation of Mitigation Measure MM 4.3-1.	See Section 4.3, <i>Air Quality</i> . The project would implement Mitigation Measure MM 4.3-1, which encourages resourceful air quality improvement and reduction methods. Mitigation Measure MM 4.3-1 would require that off-road equipment engines over 25 horsepower be equipped with EPA Tier 3 or higher engines if locally available. Mitigation Measure MM 4.3-1 also outlines other specific measures to ensure that all equipment is used efficiently, such as reducing idling time and maintain all equipment in accordance with the manufacturer's specifications.
Measure 9: A traffic study in accordance with the requirements of Kern County and CalTrans, as appropriate, shall be submitted for all discretionary projects. Study shall demonstrate consistency with the Willow Springs Specific Plan.	Consistent with implementation of Mitigation Measure MM 4.15-1	Traffic impacts are evaluated in Section 4.15, <i>Transportation</i> , of this EIR. Consistent with this measure, implementation of Mitigation Measure MM 4.15-1 would require the preparation of a Construction Traffic Control Plan to be reviewed and approved by Kern County and Caltrans, which would further reduce impacts to traffic and transportation.
Measure 13: The Traffic Impact Fee Program implements Mitigation Measure 10 of the Willow Springs Final Environmental Impact Report (EIR).	Consistent	Consistent with this measure, the project proponent would fund improvements to driveways that provide access to any County, city, or State roads.
Cultural Resources		
Goal 1: To preserve cultural resources contained on sensitive sites located within the Willow Springs Specific Plan area.	Consistent with implementation of Mitigation Measures MM 4.5-1, MM 4.5-2, MM 4.5-3, and MM 4.5-4.	Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this EIR. This EIR serves to comply with this goal and includes Mitigation Measures MM 4.5-1 through MM 4.5-4 to promote the preservation of cultural and historic resources where necessary.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 1: Archaeological investigations shall be required of specific properties proposed for development. These sites are identified in the Environmental Impact Report under Cultural Resources – Literature and Records Search, page 77, and are listed as: CA-KER-2819, 2820, 2821; CA-KER-522, 1969, 2592, 2593, 2599, 2595 and 2714; CA-KER-129, 273, 298, 302, 303. (Record on file Southern San Joaquin Valley Information Center in Bakersfield – California State University of Bakersfield.	Consistent with implementation of Mitigation Measures Mitigation Measures MM 4.5-1 and MM 4.5-2.	Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this EIR. Consistent with this policy, impacts to archaeological resources are evaluated in accordance with CEQA. This EIR serves to comply with this policy.
Policy 2: Recorded archaeological sites shall be subjected to individual studies prior to development.	Consistent with implementation of Mitigation Measures Mitigation Measures MM 4.5-1 and MM 4.5-2.	See Cultural Resources, Policy 1, above. Further, impacts to cultural resources are evaluated in Section 4.5, <i>Cultural Resources</i> , of this EIR. This EIR serves to comply with this policy.
Policy 15: Require cultural resources report for those areas with high probability for prehistoric activity prior to issuance of any grading permits.	Consistent with implementation of Mitigation Measures MM 4.5-2 and MM 4.5-3.	Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this EIR. Consistent with this policy, cultural resources reports would be prepared as outlined in of Mitigation Measures MM 4.5-2 and MM 4.5-3. Additionally, copies of reports will be provided to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Land Use Element		
Policy 2: Encourage only those industries that do not significantly increase air pollution levels.	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-3.	Consistent with this policy, the proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-3 of Section 4.3, <i>Air Quality</i> , which would reduce impacts to air quality to the extent feasible. The project would be in compliance with all applicable Eastern Kern County Air Pollution Control District, rules and regulations. Additionally, the project would be designed and constructed in accordance with energy conservation practices, such as those found in the Building Energy Efficiency Standards, and all State and local laws. See Sections 4.3, <i>Air Quality</i> , 4.6, <i>Energy</i> , and 4.8, <i>Greenhouse Gas Emissions</i> .
Policy 5: Encourage the maintenance of visual aesthetics in all new construction.	Consistent with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3.	Visual impacts are evaluated in Section 4.1, <i>Aesthetics</i> , of this EIR. Consistent with this policy, the project would prepare a Maintenance, Trash Abatement, and Pest Management Program that will be submitted to the Kern County Planning and Natural Resources Department. Additionally, the project proponent/operator shall implement color treatment to blend in with the colors found in the natural landscape as well as maintain natural vegetation within the project boundary.
Policy 6: Require developers to clean up any identified hazardous waste sites prior to submittal of any land division or development project.	Consistent with implementation of Mitigation Measure MM 4.9-1.	Section 4.9, <i>Hazards and Hazardous Materials</i> , of this EIR provides a discussion of hazardous materials. Consistent with this policy, the project would implement Mitigation Measure MM 4.9-1, which requires the preparation of a hazardous materials business plan that would describe proper handling, storage, transport, and disposal techniques and methods to be used to avoid spills and minimize impacts in the event of a spill, would ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to maintenance workers and/or the public.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 8: New and/or existing developments shall comply with the Kern County Zoning Ordinance and this Specific Plan. Where conflicts appear, the more restrictive requirements shall prevail.	Consistent with implementation of Mitigation MM 4.3-1 and MM 4.3-2.	Consistent with this policy, the proposed project would comply with the requirements of the Kern County Zoning Ordinance as evaluated in various sections of this EIR including, Section 4.3, <i>Air Quality</i> and Section 4.15, <i>Transportation</i> . Additionally, this section of the EIR discusses the land uses proposed by the project. As discussed in this section, the proposed project would be consistent with the Kern County Zoning Ordinance and the Willow Springs Specific Plan.
Policy 10: Require that construction sites be provided with a soil retardant measure approved by the County of Kern (Department of Planning and Development Services and the Environmental Health Services Department) to reduce fugitive dust or blowing sand.	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-3.	Air quality and GHG impacts are evaluated in Sections 4.3, <i>Air Quality</i> , and 4.8, <i>Greenhouse Gas Emissions</i> , of this EIR. Consistent with this policy, the proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-3, which would further reduce fugitive dust emissions during construction and operation in compliance with the County of Kern. Air quality mitigation measures include diesel emission-reduction measures during construction, fugitive dust control measures, and Valley Fever exposure minimization measures.
Policy 11: Retain vegetation until actual construction begins.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14.	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. This EIR serves to comply with this policy and reduce potential impacts to vegetation with mitigation. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of sensitive species.
Noise Element		
Goal 2: To minimize disruption to the quality of life resulting from excessive noise.	Consistent	Noise impacts, sensitive receptors and County noise thresholds are evaluated in Section 4.12, <i>Noise</i> , of this EIR. As discussed in that section, the proposed project would minimize disruption and noise impacts to sensitive receptors. Thus, the project would be consistent with this goal.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Goal 3: To maintain reasonable noise level standards, consistent with the Kern County Noise Element.	Consistent	This section of the EIR discusses the land uses proposed by the project. As discussed in this section, the proposed project would be consistent with the Kern County Noise Element.
Policy 1: Noise emissions from new development will be controlled and off-site levels limited to the standards of the Kern County General Plan Noise Element.	Consistent	See Noise Element, Goal 2 and Goal 3, above. The proposed project would be consistent with the Kern County General Plan Noise Element.
<p>Policy 3: Land uses will be categorized in the following manner, and the noise level standards adopted in accordance with the Kern County Noise Element:</p> <p>Sensitive Land Uses. Noise level does not affect the successful operation of these particular activities. A wide variety of uses can be included in this category, including public utilities, transportation systems, and other noise-related uses.</p> <p>Moderately Sensitive Land Uses. Some degree of noise control must be present if these activities are to be successfully carried out. Included here are general business and recreational uses.</p> <p>Sensitive Uses. Lack of noise control will severely impact these uses, reducing the quality of life. This category primarily contains residential uses.</p> <p>Highly Sensitive Uses. A high degree of noise control is necessary for the successful operation of these activities. Examples include hospitals and churches.</p>	Consistent	See Noise Element, Goal 2 and Goal 3, above. The proposed project would be consistent with the Kern County General Plan Noise Element. Consistent with this policy, the proposed project will prepare an acoustical analysis in accordance with the requirements of Chapter 3, Noise Element, Measure G, of the Kern County General Plan.
Measure 2: The implementation measures of the Kern County Noise Element are hereby adopted by reference.	Consistent	This section 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. The proposed project would be consistent with implementation measures of the Kern County Noise Element.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Public Facilities Element		
Goal 3: To restrict, if possible, any further and/or unnecessary drawdown of the water table within the plan area.	Consistent	Public utility impacts are evaluated in Section 4.17, <i>Utilities and Service Systems</i> , of this EIR. As described therein, the project site is located within the Antelope Valley Groundwater Basin which has undergone adjudication, which restricts unnecessary drawdown of the basin water table. The adjudication process for the Antelope Valley Groundwater Basin was completed in 2015 which established a safe yield of 110,000 AFY. Because the amount of the water required for the project would be minimal and would be obtained from an existing source with existing water rights, impacts related to water supply would be less than significant. Thus, the project would be consistent with this goal.
Policy 2: In evaluating a development application, Kern County will consider both its physical and fiscal impact on the local school district and other public facilities. If it is found that the district or facilities involved will, as a result, require additional facilities or incur costs requiring additional local revenues, the development project will be required as a condition of approval to contribute funds to the district for the costs directly attributable to the project.	Consistent	See Public Facilities Element, Goal 4, above. Further, public service impacts are evaluated in Section 4.14, <i>Public Services</i> , of this EIR.
Policy 4: New development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.	Consistent with implementation of Mitigation Measure MM 4.14-2.	Impacts to public services are evaluated in Section 4.14, <i>Public Services</i> , of this EIR. Consistent with this policy, Mitigation Measure MM 4.14-2 requires the project proponent to pay applicable fees and taxes to reduce significant impacts to fire or police protection services resulting from the project.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 5: Operation of any solid waste facility shall comply with standards provided by the Kern County Solid Waste Management Plan.	Consistent with implementation of Mitigation Measure MM 4.17-1.	Consistent with this policy, the proposed project would develop a solar PV power generating facilities that would not operate a solid waste facility. As discussed in Section 4.17, <i>Utilities and Service Systems</i> , of this EIR, the proposed project would be served by Kern County Waste Management and would comply with construction waste diversion requirements implemented by the County. Additionally, implementation of Mitigation Measure MM 4.17-1 would ensure compliance with waste diversion and recycling requirements by requiring recycling during construction, operation, and decommissioning of the project.
Measure 6: The siting and establishment of solid waste transfer stations, landfills, recycling center, and cleanup programs shall be in accordance with Kern County's Solid Waste Management Plan.	Consistent with implementation of Mitigation Measure MM 4.17-1.	See Public Facilities Element, Policy 5, above. Further, utility and service systems impacts are evaluated in Section 4.17, <i>Utilities and Service Systems</i> , of this EIR.
Measure 10: New development shall contribute its pro rata share for circulation improvements, school impact fees, park land dedications/fees, and possible biota impact fees. As additional impact fees are adopted, they shall be incorporated into the Specific Plan text.	Consistent	Consistent with this policy, the project proponent would fund improvements to driveways that provide access to any County, city, or State roads. Additionally, the project proponent would pay applicable fees and taxes to reduce significant impacts to fire or police protection services resulting from the project. As stated above in Public Facilities Element, Goal 4, the proposed project would develop a solar PV power generating facilities that would not increase demand for local schools. Thus, the project would be consistent with this measure.
Measure 11: The school district, along with the developer, shall provide Kern County with an alternative funding method, should an alternative be submitted with an impending development.	Consistent	See Public Facilities Element, Goal 4, above. Further, public service impacts are evaluated in Section 4.14, <i>Public Services</i> , of this EIR.
Measure 12: The school district, along with the developer, shall provide Kern County with an alternative funding method, should an alternative be submitted with an impending development.	Consistent	See Public Facilities Element, Goal 4, above. Further, public service impacts are evaluated in Section 4.14, <i>Public Services</i> , of this EIR.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 21: The projects shall comply with all applicable Kern County code and ordinance requirements for construction, access, water mains, fire flows, and fire hydrants.	Consistent with implementation of Mitigation Measure MM 4.14-1.	Consistent with this policy, the project would be required to comply with the County adopted Fire Code and the requirements of the Kern County Fire Department applicable for construction, access, water mains, fire flows, and fire hydrant.
Measure 24: Consideration shall be given to implementation of the following measure to reduce the impacts associated with solid waste generation: <ul style="list-style-type: none"> a) Compacting refuse would substantially reduce the number of refuse hauling trips and allow for more effective and sanitary disposal. b) Each project applicant shall comply with guidelines set forth by Kern County in accordance with AB 939 which mandates recycling programs for each jurisdiction in California and shall agree to be subject to universal collection for one- to four-unit residential projects and commercial. c) Where feasible, a community recycling center should be implemented to provide convenient recycling opportunities. d) Studies shall be conducted by Kern County prior to issuance of building permits, to determine a feasible location for an alternate landfill upon reaching capacity at Mojave-Rosamond concurrent with development approvals. County should initiate studies to site alternative landfill. e) Each project applicant shall comply with guidelines set forth by Kern County in accordance with AB 939 which mandates recycling programs for each jurisdiction in California and shall agree to be subject to universal collection for one- to four-unit residential projects and commercial. 	Consistent with implementation of Mitigation Measure MM 4.17-1.	Public utility impacts are evaluated in Section 4.17, <i>Utilities and Service Systems</i> , of this EIR. As described therein, 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. Additionally, the proposed project would not generate a significant amount of waste that would exceed the capacity of local landfill. With the implementation of Mitigation Measure MM 4.17-1, a recycling coordinator would ensure the separation and proper disposal of recyclable materials and solid waste during construction and operation, resulting in less than significant impact to solid waste providers.
Measure 25: The applicants are subject to school assessment fees pursuant to AB 2926.	Consistent	See Public Facilities Element, Goal 4, above. Further, public service impacts are evaluated in Section 4.14, <i>Public Services</i> , of this EIR.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Residential		
Policy 4: Encourage the maintenance of natural vegetation until actual construction begins.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14.	See Land Use Element, Policy 11, above. Further, biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. This EIR serves to comply with this policy and reduce potential impacts to vegetation with mitigation. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of sensitive species.
Policy 8: Require cultural resources report for those areas with a high probability for prehistoric activity.	Consistent with implementation of Mitigation Measures MM 4.5-2 and MM 4.5-3.	See Cultural Resources, Policy 15, above. Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this EIR.
Resource		
Goal 3: Encourage retention of productive agricultural and dormant mineral resources by imposing a restriction on allowing urban type land uses on nearby adjacent lands.	Consistent	The project site is located on land that is zoned as A (Exclusive Agriculture) and implementation of the proposed project would prevent livestock grazing on the site. Other uses besides agriculture, including solar energy generation and storage, are permitted within the A District with the approval of a CUP. The project would not involve additional change in the existing environment besides those described in this Draft EIR. Direct disturbance related to the project would be approximately 2,285 acres. Additionally, as discussed in the NOP/IS, the project site is not located within the bounds of a mineral resource area. The project site is not located in areas of agricultural use or in areas containing petroleum, or mineral resources. Therefore, the proposed project would be consistent with this goal.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 1: Provide a method encouraging the preservation of agricultural land	Consistent	As discussed in Section 4.2, <i>Agriculture and Forestry Resources</i> , of this EIR, the project site is not designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. Therefore, the proposed project would be consistent with this policy.
Policy 2: Initial development within the Update area shall, when possible, be directed towards previously impacted areas (i.e., agricultural fields).	Consistent	Consistent with this policy, the project proposes the development of PV power generation and storage facilities 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.
Policy 3: To ensure compliance with applicable State and federal laws and to protect the biological resources present in the Specific Plan area.	Consistent	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. This EIR serves to comply with this policy and reduce potential impacts with mitigation. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of sensitive species.
Measure 15: Where possible, project development within the Specific Plan Update area shall be designed to avoid displacement of destruction of Joshua tree habitat, to the satisfaction of the Kern County Agricultural Commissioner's Office. Areas adjacent to the woodland shall have a 50-foot setback from the Joshua tree plants. Within that setback, a native plant cover should be restored to natural habitat values to serve as a bugger, if such plant cover is not present.	Consistent with implementation of special-status plant avoidance and minimization measures described in Mitigation Measure MM 4.4-1 through MM 4.4-10.	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. This EIR serves to comply with this measure and reduce potential impacts with mitigation. As discussed in Section 4.4, significant impacts could occur to Joshua trees, silver cholla, and beavertail cactus on the project site. However, these impacts would be mitigated to a level of less than significant through the implementation of Mitigation Measures MM 4.4-1 through MM 4.4-10.
Measure 16: A Joshua Tree Preservation and Transportation Plan shall be developed by the applicants for each parcel where Joshua trees are located on site. The plan shall be submitted to the Kern County Agricultural Commissioner's office for review and approval to grading permit issuance.	Consistent with implementation of special-status plant avoidance and minimization measures described in Mitigation Measure MM 4.4-1 through MM 4.4-10.	See Resources, Measure 15, above. Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 23: A Joshua Tree Preservation and/or Transplantation Plan shall be developed by applicants of discretionary projects for each parcel where Joshua trees are located on site. The plan shall be submitted to the Kern County Agricultural Commissioner for review and approval prior to grading permit issuance.	Consistent with implementation of special-status plant avoidance and minimization measures described in Mitigation Measure MM 4.4-1 through MM 4.4-10.	See Resources, Measure 15, above. Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR.
Measure 24: Prior to issuance of any grading permits for individual projects, individual project applicants shall consult with the Regional Water Quality Control Board, State Department of Fish and Game and/or U.S. Fish and Wildlife Service, and the Army Corps of Engineers to identify potentially required permits. Compliance with this measure will be confirmed through the submittal of a letter (in conjunction with submittal of grading permit applications) to the County demonstrating compliance with the above-mentioned agencies.	Consistent	Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR, discusses required compliance with Kern County's National Pollutant Discharge Elimination System Applicability legislation, which requires projects to comply with the State Water Resources Control Board's Construction General Permit. Additionally, Biological Resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. This EIR serves to comply with this policy and reduce potential impacts with mitigation. As part of the biological resources evaluation and habitat assessment conducted for the project, relevant state and federal agencies were contacted to ensure that appropriate information about the project site were being gathered.
Measure 25: Prior to issuance of permits, individual project applicants shall obtain appropriate permits as determined necessary by the Regional Water Quality Control Board, U.S. Fish and Wildlife Service, State Department of Fish and Game, and Army Corps of Engineers.	Consistent	See Resources, Measure 25, above. Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR and compliance with the State Water Resources Control Board is discussed in Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Seismic Safety and Safety Element		
Goal 7: Minimize damage to public facilities and utilities, such as water and gas mains, electric, telephone, and sewer lines, streets, and bridges located in areas of special flood hazard.	Consistent with implementation of Mitigation Measure MM 4.10-1.	As described in Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR, the project site is located within the 100-year floodplain and is classified as having a 1 percent annual chance of flooding. Further, the project would be developed in accordance with the General Plan, Floodplain Management Ordinance and Mitigation Measure MM 4.10-1. Therefore, the proposed project would be consistent with this goal.
Goal 9: Comply with the requirements of the National Flood Insurance Program Regulations, Parts 59 and 60 of Title 44 of the Code of Federal Regulations.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See Seismic Safety and Safety Element, Goal 7, of the Willow Springs Specific Plan, above.
Goal 15: To protect community residents from undue hazards and costs associated with road maintenance, slope instability, improper drainage, and inadequate sewage treatment.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See 1.9, Resources, Policy 11, of the Kern County General Plan, above.
Policy 1: New development within the 100-year floodplain shall be regulated in accordance with the Floodplain Management Section of the Department of Planning and Development Services according to the Flood Damage Prevention Ordinance, the Kern Land Division Ordinance, and the Kern County Zoning Ordinance as may be amended from time to time.	Consistent with implementation of Mitigation Measure MM 4.10-1.	As described in Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR, the project site is located within the 100-year floodplain and is classified as having a 1 percent annual chance of flooding. Further, the project would be developed in accordance with the General Plan, Floodplain Management Ordinance and Mitigation Measure MM 4.10-1. Therefore, the proposed project would be consistent with this measure.
Policy 7: Compliance with site-specific issues, goals, policies, and implementation measures contained in the Seismic/Safety Element of the Kern County General Plan.	Consistent	See Chapter 4, Safety Element, of the Kern County General Plan, above.
Policy 9: All new construction in the plan area shall comply with Chapter 23 of the Uniform Building Code (UBC), which includes building pad and foundation design standards for structures in UBC Seismic Zone IV.	Consistent.	Construction of the proposed project would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08) and Chapter 23 of the International Building Code (which replaced the UBC). Compliance with this policy would be ensured upon final review by the Kern County Public Works Department.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 3: Areas within the 100-year floodplain shall be zoned with the appropriate FPP, FP, or FPS designation.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See Seismic Safety and Safety Element, Goal 7, of the Willow Springs Specific Plan, above.
Measure MM 4: New development within the 100-year floodplain shall be regulated in accordance with the Flood Damage Prevention Ordinance and the Kern County Zoning Ordinance as they may be amended from time to time.	Consistent with implementation of Mitigation measures MM 4.10-1.	Water quality impacts are evaluated in Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR. Consistent with this policy, the proposed project would implement best management practices during construction to avoid impacts to water quality. The project would also implement a Hazardous Materials Business Plan to reduce mixing of pollutants with stormwater onsite, thereby maintaining the integrity of the watershed.
Measure 24: In order to combat the stormwater pollution created by the various land uses the following source control mitigation measures are required: a) Periodic cleaning (i.e., street sweeping) of paved areas to remove small particle size sediments with absorbed pollutants caused by uses of the area. b) Utilize established Best Management Practices (BMPs) for small on-site control of urban runoff water quality. These measures include infiltration trenches, infiltration basins, water quality inlets, vegetative biofilter, grass swales, and porous pavement.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See Seismic Safety and Safety Element, Goal 7, of the Willow Springs Specific Plan, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Water Quality and Availability		
Goal 1: To ensure that new developments are provided with an adequate water supply and wastewater disposal/treatment facilities.	Consistent	Water and wastewater impacts are evaluated in Section 4.10, <i>Hydrology and Water Quality</i> , and Section 4.17, <i>Utilities and Service Systems</i> , of this EIR. The proposed project would require a septic system to be built within the O&M facility in order to provide non-potable water for the estimated 12 full-time employees that would be at the facility. This septic system would treat sewage and would provide limited recharge to the nearby aquifer. This septic system would be constructed in accordance with Kern County Department of Public Health requirements. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed.
Policy 1: Water supply method and wastewater disposal/treatment facility shall be as required by Kern County.	Consistent	See Water Quality and Availability, Goal 1, of the Willow Springs Specific Plan, above.
Policy 2: Separate environmental documentation shall be required for the methods of water supply and wastewater disposal/treatment selected.	Consistent	See Water Quality and Availability, Goal 1, of the Willow Springs Specific Plan, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure MM 4: The individual project applicants shall adhere to the following guidelines as established by the Department of Water Resources for flood damage prevention: -The slope and foundation designs for all structures shall be based on detailed soils and engineering studies.	Consistent with implementation of Mitigation Measure MM 4.10-1.	As discussed in Section 4.10, <i>Hydrology and Water Quality</i> , 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 (LID) features such as drainage swales for collection of runoff prior to offsite discharge. Routine structural BMPs are intended to address water quality impacts related to drainage that are inherent in development. As discussed in Section 4.10, <i>Hydrology and Water Quality</i> , the proposed project would likely require one or more 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 MM 4.10-1, which requires a final hydrologic study and drainage plan designed to evaluate and minimize potential increases in runoff from the project site.
General Provision		
Goal 9: Fire flow provisions and on-site fire protection standards (i.e., sprinklers/water storage) shall be in compliance with minimum standards provided by the Kern County Fire Department.	Consistent with implementation of Mitigation Measure MM 4.14-1 and MM 4.14-2.	Consistent with this measure, the proposed project would implement Mitigation Measure MM 4.14-1, which would require preparation and implementation of a fire safety plan to ensure the provision of appropriate access. Additionally, the project would implement Mitigation Measure MM 4.14-2, which would require the project to compensate the county for any deficiencies in service resulting from project construction and operation.

4.12.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for the proposed project, and provides an analysis of potential impacts related to noise and groundborne vibration from project implementation. Additionally, mitigation measures to reduce potential noise and vibration impacts are identified, where appropriate. The information and analysis in this section is largely based on the *Noise Technical Report for the BigBeau Solar Project* (ICF, 2019) located in Appendix O of this EIR.

Noise Fundamentals

An understanding of the physical characteristics of noise is useful for evaluating environmental noise impacts. 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 and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. The subjective responses of individuals to similar noise events are diverse and influenced by many factors, including the type of noise, the perceived importance of the noise, its appropriateness to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity.

Interference effects of environmental noise refer to those effects that interrupt daily activities and include interference with human communication activities, such as normal conversations, watching television, and telephone conversations, and interference with sleep. Sleep interference effects can include both awakening from sleep and arousal to a lesser state of sleep.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Sound is generally characterized by several variables, including frequency and amplitude. Frequency describes the sound's pitch (tone) and is measured in cycles per second (Hertz [Hz]), while amplitude describes the sound's pressure (loudness). Because the range of sound pressures that occurs in the environment is extremely large, it is convenient to express these pressures on a logarithmic scale that compresses the wide range of pressures into a more useful range of numbers. The standard unit of sound measurement is the decibel (dB). Hz is a measure of how many times each second the crest of a

sound pressure wave passes a fixed point. For example, when a drummer beats a drum, the skin of the drum vibrates a given number of times per second. If the drum vibrates 100 times per second, it generates a sound pressure wave that is oscillating at 100 Hz, and this pressure oscillation is perceived by the ear/brain as a tonal pitch of 100 Hz. Sound frequencies between 20 and 20,000 Hz are within the range of sensitivity of the healthy human ear.

Sound levels are expressed by reference to a specified national/international standard. The sound pressure level is used to describe sound pressure (loudness) and is specified at a given distance or specific receptor location. In expressing sound pressure level on a logarithmic scale, sound pressure (dB) is referenced to a value of 20 micropascals (μPa). Sound pressure level depends not only on the power of the source but also on the distance from the source to the receiver and the acoustical characteristics of the sound propagation path (absorption, reflection, etc.).

Outdoor sound levels decrease logarithmically as the distance from the source increases. This decrease is due to wave divergence, atmospheric absorption, and ground attenuation. Sound radiating from a source in a homogeneous and undisturbed manner travels in spherical waves. As the sound waves travel away from the source, the sound energy is dispersed over a greater area, decreasing the sound pressure of the wave. Spherical spreading of the sound wave from a point source reduces the noise level at a rate of 6 dB per doubling of distance.

Atmospheric absorption also influences the sound levels received by an observer. The greater the distance traveled, the greater the influence of the atmosphere and the resultant fluctuations. Atmospheric absorption becomes important at distances greater than 1,000 feet. The degree of absorption varies depending on the frequency of the sound as well as the humidity and temperature of the air. For example, atmospheric absorption is lowest (i.e., sound carries farther) at high humidity and high temperatures, and lower frequencies are less readily absorbed (i.e., sound carries farther) than higher frequencies. Over long distances, lower frequencies become dominant as the higher frequencies are more rapidly attenuated. Turbulence, gradients of wind, and other atmospheric phenomena also play a significant role in determining the degree of attenuation. For example, certain conditions, such as temperature inversions, can channel or focus the sound waves, resulting in higher noise levels than would result from simple spherical spreading.

Sound from a tuning fork contains a single frequency (a pure tone), but most sounds in the environment do not consist of a single frequency. Instead, they are a broad band of many frequencies differing in sound level. Because of the broad range of audible frequencies, methods have been developed to quantify these values into a single number representative of human hearing. The most common method used to quantify environmental sounds consists of evaluating all frequencies of a sound according to a weighting system that is reflective of human hearing characteristics. Human hearing is less sensitive at low frequencies and extremely high frequencies than at the mid-range frequencies. This process is termed “A weighting,” and the resulting dB level is termed the “A-weighted” decibel (dBA).

Because A-weighting is designed to emulate the frequency response characteristics of the human ear and reflect the way people perceive sounds, it is widely used in local noise ordinances and state and federal guidelines, including those of the State of California and Kern County. Unless specifically noted, the use of A-weighting is always assumed with respect to environmental sound and community noise, even if the notation does not include the “A.”

In terms of human perception, a sound level of 0 dBA is the threshold of human hearing and is barely audible by a healthy ear under extremely quiet listening conditions. This threshold is the reference level against which the amplitude of other sounds is compared. Normal speech has a sound level of 60 dBA.

Sound levels above about 120 dBA begin to be felt inside the human ear as discomfort, progressing to pain at still higher levels. Humans are much better at discerning relative sound levels than absolute sound levels. The minimum change in the sound level of individual events that an average human ear can detect is about 1 to 3 dBA. A 3 to 5 dBA change is readily perceived. An increase (or decrease) in sound level of about 10 dBA is usually perceived by the average person as a doubling (or halving) of the sound's loudness.

Because of the logarithmic nature of the decibel, sound levels cannot be added or subtracted directly. However, some simple rules are useful in dealing with sound levels. First, if a sound's acoustical energy is doubled, the sound level increases by 3 dBA, regardless of the initial sound level (e.g., 60 dBA + 60 dB = 63 dBA; 80 dBA + 80 dBA = 83 dBA). However, an increase of 10 dBA is required to double the perceived loudness of a sound, and a doubling or halving of the acoustical energy (a 3 dBA difference) is at the lower limit of readily perceived change.

Although dBA may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most ambient environmental noise includes a mixture of noise from nearby and distant sources that creates an ebb and flow of sound, including some identifiable sources plus a relatively steady background noise in which no particular source is identifiable. A single descriptor, termed the equivalent sound level (L_{eq}), is used to describe sound that is constant or changing in level. L_{eq} is the energy-mean dBA during a measured time interval. It is the "equivalent" sound level produced by a given constant source equal to the acoustic energy contained in the fluctuating sound level measured during the interval. In addition to the energy-average level, it is often desirable to know the acoustic range of the noise source being measured. This is accomplished through the maximum instantaneous (L_{max}) and minimum instantaneous (L_{min}) noise level indicators that represent the root-mean-square maximum and minimum noise levels measured during the monitoring interval. The L_{min} value obtained for a particular monitoring location is often called the acoustic floor for that location.

To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors L_{10} , L_{50} , and L_{90} may be used, which represent the noise levels equaled or exceeded during 10 percent, 50 percent, and 90 percent of the measured time interval, respectively. Sound levels associated with L_{10} typically describe transient or short-term events, L_{50} represents the median sound level during the measurement interval, and L_{90} levels are typically used to describe background noise conditions.

The Day-Night Average Sound Level (L_{dn} or DNL) represents the average sound level for a 24-hour day and is calculated by adding a 10 dBA penalty to sound levels during the night period (10:00 p.m. to 7:00 a.m.). The L_{dn} is the descriptor of choice and used by nearly all federal, state, and local agencies throughout the United States to define acceptable land use compatibility with respect to noise. Within California, the Community Noise Equivalent Level (CNEL) is sometimes used. CNEL is very similar to L_{dn} , except that an additional 5 dBA penalty is applied to the evening hours (7:00 p.m. to 10:00 p.m.). Because of the time-of-day penalties associated with the L_{dn} and CNEL descriptors, the dBA value of L_{dn} or CNEL 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

Unit of Measure		Description
dB	Decibel	Decibels, which are units for measuring the volume of sound, are measured on a logarithmic scale, representing points on a sharply rising curve. For example, 10 dB sounds are 10 times more intense than 1 dB sounds, and 20 dB sounds are 100 times more intense. A 10 dB increase in sound level is perceived by the human ear as a doubling of the loudness of the sound.
dBA	A-Weighted Decibel	A sound pressure level that has been weighted to quantitatively reduce the effect of high- and low-frequency noise. It was designed to approximate the response of the human ear to sound.
CNEL	Community Noise Equivalent Level	A metric representing the 24-hour average sound level that includes a 5 dBA penalty during relaxation hours (7 p.m. to 10 p.m.) and a 10 dBA penalty for sleeping hours (10 p.m. to 7 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 p.m. and 7 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 _{eq} equates to L _{eq(1)} for L _{eq} averaged over one hour; e.g., L _{eq(8)} equates averaged over eight hours.
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.

Vibration Fundamentals

As described in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* (FTA, 2018), groundborne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, groundborne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of groundborne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving, and operation of heavy earth-moving equipment.



**KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT**

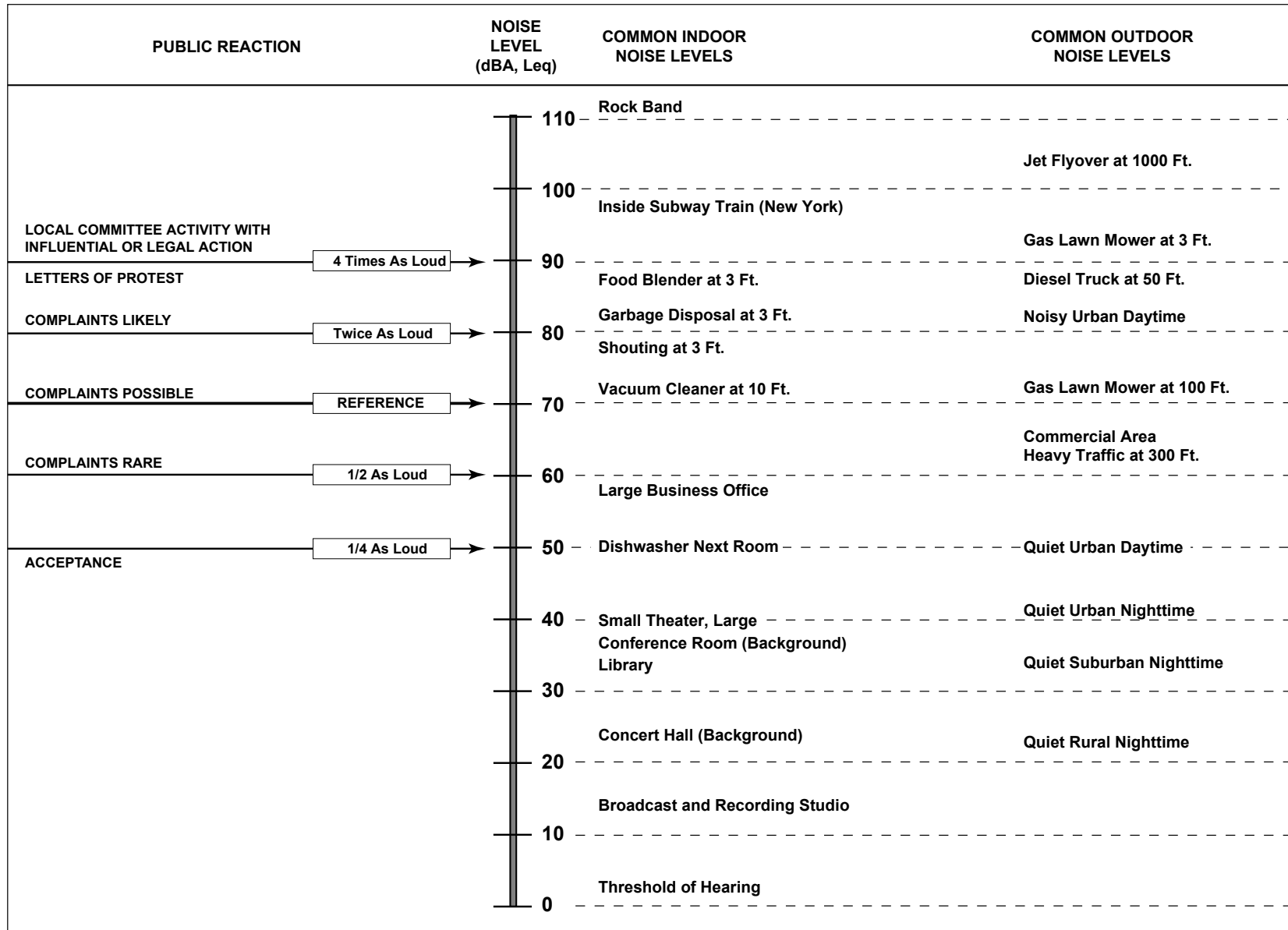


FIGURE 4.12-1: EFFECTS OF NOISE ON PEOPLE

There are several different methods that are used to quantify vibration. The peak particle velocity (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 root mean square (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. Peak particle velocity 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, groundborne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration sensitive equipment.

The effects of groundborne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. 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. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 inches per second (in/sec) PPV, while the standard for even the most sensitive and fragile structures is 0.12 in/sec PPV (FTA, 2018).

In residential areas, the background vibration velocity level is usually around 50 VdB (approximately 0.0013 in/sec PPV). This level is well below the vibration velocity level threshold 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 is located in the southeastern portion of Kern County, California, as shown in **Figure 3-1, Site Vicinity**. The project site is approximately 12 miles southwest of SR-58 and approximately 9 miles east of SR-14. The project is approximately 38 miles southeast of the City of Bakersfield, 13 miles south of the City of Tehachapi, and 1.9 miles northwest of the unincorporated community of Rosamond. Other communities within the vicinity of the proposed project site include California City in Kern County and the cities of Lancaster and Palmdale in Los Angeles County, which are approximately 17 miles northeast, 9 miles southeast, and 24 miles southeast of the project, respectively. Edwards Air Force Base (AFB) is approximately 22 miles east of the project's eastern boundary.

The project site encompasses a study area of approximately 2,285 acres, which includes 2,125 acres of undeveloped, privately owned land and one 160-acre parcel owned by the California State Lands Commission (Commission). The proposed project includes preferred and alternative gen-tie routes, although only one route would be constructed. Gen-tie Option 1 would exit the western boundary of the project site and head northwest for approximately 2 miles, where it would connect into the existing substation at the Valentine Solar Project. Gen-tie Option 2 would exit the northern boundary of the project

site, heading northeast for approximately 2 miles, where it would connect into the existing substation at the Catalina Solar project. Gen-tie Option 3 would exit the western boundary of the project site and head west for 0.3 mile to SCE's Tehachapi Renewable Transmission Project (TRTP), then southwest for approximately 2.5 miles adjacent to the TRTP, and then west for 3.5 miles where it would connect into the existing Rose Meadow Substation. Gen-tie Option 4 would be an extension of Gen-tie Option 1, and instead of connecting to the Valentine Substation, it would continue north of the Valentine Substation, tapping into the existing 220 kV Antelope Valley Transmission Line.

There are several existing and permitted solar energy, wind energy, and transmission projects in the region where the project site is located. The Catalina Renewable Energy Project, which is located immediately north of the project's northeastern boundary, is currently operational with 128 MW of solar capacity, with 110 MW (Catalina Solar) and 18 MW (Catalina Solar 2) being completed in 2015. The Valentine Solar Project, located to the west of the proposed project, was approved in June 2016, is currently under construction, and will be operational as of December 2019. An expanded list of existing, approved, and pending projects in the vicinity of the project site is provided in Table 3-4, *Cumulative Projects List*.

Existing Noise Environment

The project site is a desert and is located in an area of low population density and is traversed by a network of dirt roads. The existing noise environment is influenced primarily by natural noise sources, such as wind, bird vocalizations, as well as, by man-made noise sources including vehicle traffic on roadways in the area, electrical infrastructure associated with existing solar facilities, residential-generated noise (e.g., vehicle operation, dogs barking), occasional aircraft overflights, and distant operation of wind turbines.

The nearest highways to the project site are SR-58, approximately 12 miles to the northeast, and SR-14, 9 miles to the west. The project would use site access roads on private land associated with the Catalina Solar Project. The nearest public airstrip is the Rosamond Airport, located approximately 10 miles to the southeast of the project site. The proposed project is not located within the boundaries of an Airport Influence Area, as identified in the Kern County Airport Land Use Compatibility Plan (ALUCP) (County of Kern, 2012).

To document existing ambient noise levels in the study area, eight short-term noise measurements were conducted in the project vicinity and one long-term measurement was conducted within the project site. Given the size of the project site and the sparsely distributed residential dwellings that are located at various distances from the project site boundary, the eight short-term measurement locations were selected to provide a representative sample of the existing ambient noise levels around the project site, as well as, at locations of the nearest proposed gen-tie routes. Each of the short-term measurements were conducted over a period of at least 15 minutes, while the long-term measurement was conducted over a 24-hour period. The ambient noise measurements indicate that daytime hourly average noise levels generally ranged between 28 and 37 dBA L_{eq} in the project area, and the 24-hour average noise level was 37 dBA CNEL within the project site.

Noise Sensitive Receptors

Noise sensitive receptors are generally defined as land uses where people reside or where the presence of unwanted sound may adversely affect the existing land use. The Noise Element of the Kern County General Plan (County of Kern, 2009) considers the following as noise sensitive areas: residences, hospitals, places of worship, and schools, as well as nature and wildlife preserves, recreational areas, and parks.

There are no residences or other noise sensitive receptors on the project site. Residential dwellings are scattered around the perimeter of the project site and are located at various distances from the project boundary. While three residential properties are adjacent to the project boundary, the remaining dwelling structures are generally farther away and are located at distances ranging from approximately 0.1 mile to beyond 1 mile of the project site boundary, as illustrated in **Figure 4.12-2, *Nearby Sensitive Receptors***, below. While existing dwelling structures have been identified in the project site vicinity, not all of these structures are habitable or occupied with residents. In addition, residential dwellings are located within a quarter-mile of each of the gen-tie route options. Other sensitive noise receptors, such as schools, hospitals, rest homes, long-term care and mental care facilities, churches, libraries, and parks are not present within a 10-mile radius.

4.12.3 Regulatory Setting

Federal

Noise Control Act of 1972

The Noise Control Act of 1972 (42 USC 4910) establishes a national policy to promote an environment for all Americans to be free from noise that jeopardizes their health and welfare. The Act establishes a means for the coordination of federal research and activities in noise control, authorizes the establishment of federal noise emissions standards for products distributed in commerce, and provides the noise-emission and noise-reduction characteristics of such products to the public.

United States Environmental Protection Agency, Environmental Noise Levels

The United States Environmental Protection Agency (USEPA) provided guidance on environmental noise levels in *Information on Levels of Environmental Noise Requisite to Protect Health and Welfare with an Adequate Margin of Safety* (USEPA, 1974), commonly referenced as the “Levels Document,” that establishes an L_{dn} of 55 dBA, as the requisite level, with an adequate margin of safety, for areas of outdoor uses, including residences and recreation areas. The Levels Document does not constitute USEPA regulations or standards, but identifies safe levels of environmental noise exposure without consideration of technical or economic feasibility for achieving these levels or other potentially relevant considerations.

Federal Energy Regulatory Commission, Noise Guidelines

Federal Energy Regulatory Commission (FERC) *Noise Guidelines on Noise Emissions from Compressor Stations, Substations, and Transmission Lines* (18 CFR 157.206[d]5), require that the noise attributable to any new compressor stations, compression added to an existing station, or any modification, upgrade, or update of an existing station must not exceed a L_{dn} of 55 dBA at any pre-existing noise-sensitive area (such as schools, hospitals, or residences). This policy was adopted based on the USEPA-identified level of significance of 55 L_{dn} dBA.

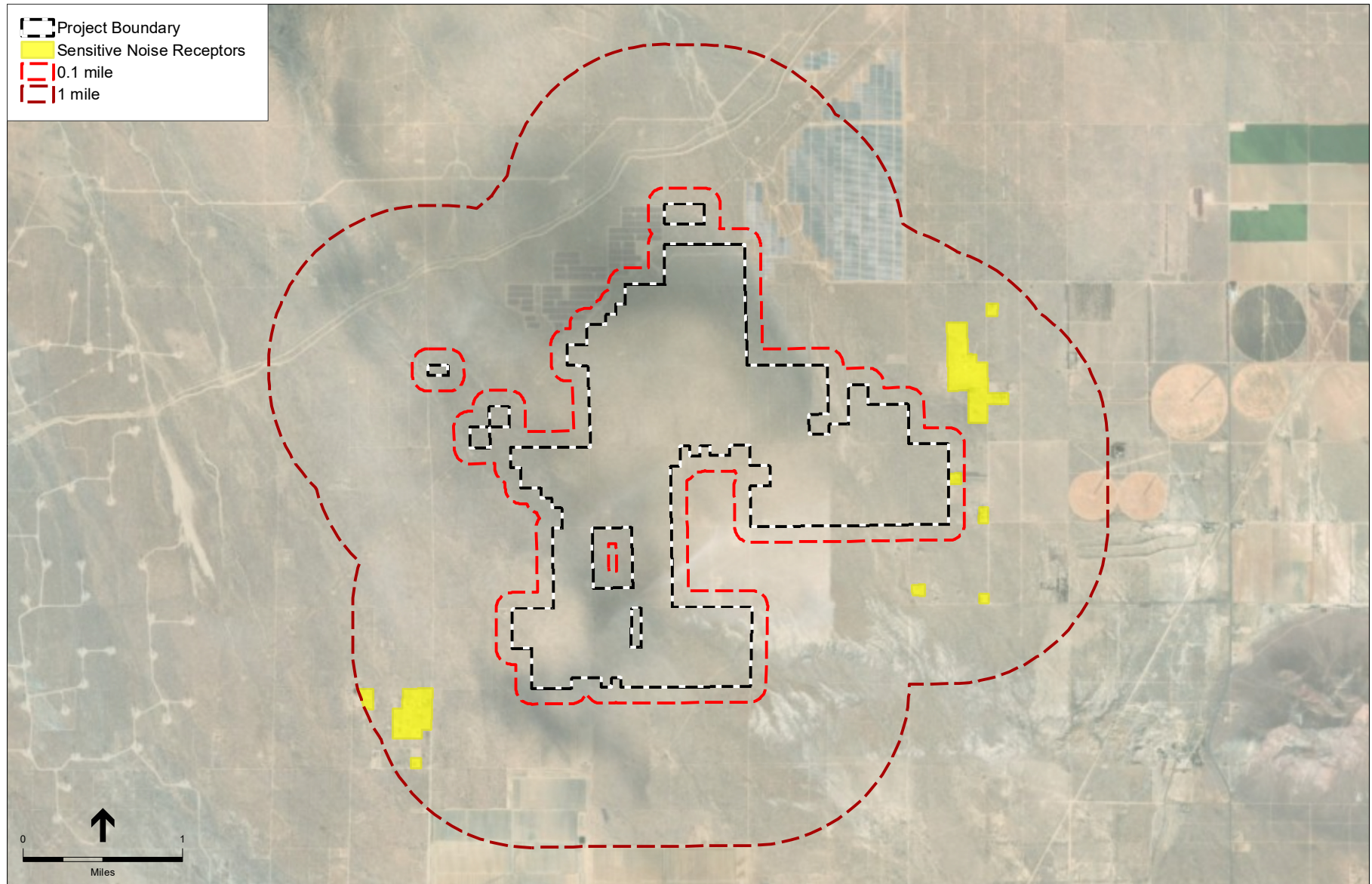


FIGURE 4.12-2: NEARBY SENSITIVE RECEPTORS

Department of Housing and Urban Development, Environmental Standards

The Department of Housing and Urban Development (HUD) regulations (24 CFR Part 51) set forth the following exterior noise standards for new home construction, assisted or supported by the HUD:

- 65 L_{dn} or less – Acceptable
- $> 65 L_{dn}$ and $< 75 L_{dn}$ – Normally unacceptable, appropriate sound attenuation measures must be provided
- $> 75 L_{dn}$ – Unacceptable

HUD's regulations do not contain standards for interior noise levels. Rather, a goal of 45 dBA L_{dn} is set forth, and attenuation requirements are geared to achieve that goal.

Occupational Safety and Health Administration, Occupational Noise Exposure

Occupational Safety and Health Administration (OSHA), *Occupational Noise Exposure; Hearing Conservation Amendment* (Federal Register 48 [46], 9738–9785, 1983) stipulates that protection against the effects of noise exposure shall be provided for employees when sound levels exceed 90 dBA over an 8-hour exposure period. Protection shall consist of feasible administrative or engineering controls. If such controls fail to reduce sound levels to within acceptable levels, personal protective equipment shall be provided and used to reduce exposure of the employee. Additionally, a Hearing Conservation Program must be instituted by the employers whenever employee noise exposure equals or exceeds the action level of an 8-hour time-weighted average sound level of 85 dBA $L_{eq(8)}$. The Program requirements consist of periodic area and personal noise monitoring, performance and evaluation of audiograms, provision of hearing protection, annual employee training, and record keeping.

State

The state requires all municipalities to prepare and adopt a comprehensive long-range general plan, which must contain a noise element (California Government Code Section 65302(f) and Section 46050.1 of the Health Safety Code). The requirements of the noise element 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 California Department of Health Services has studied the correlation of noise levels and their effects on various land uses. The Governor's Office of Planning and Research (State of California, 2003) has established guidelines for evaluating the compatibility of various land uses as a function of community noise exposure, for the noise elements of local general plans. The guidelines are the basis for most noise element land use compatibility guidelines in California.

The land use compatibility for community noise environment chart identifies the normally acceptable range for several different land uses, as shown in **Figure 4.12-3, *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 go up to 70 dBA CNEL.

CEQA *Guidelines* (PRC Section 21000 et seq.) requires the identification of “significant” environmental impacts and their feasible mitigation. Section XI of 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 (Title 24, California Code of Regulations), which set forth an interior standard of 45 dBA CNEL or L_{dn} in any habitable room, requiring 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 from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

Local

Kern County General Plan

The Noise Element of the Kern County General Plan (County of Kern, 2009) provides goals, policies, and implementation measures applicable to noise, which, as related to the project, are provided below. The major purpose of the County’s Noise Element is to establish reasonable standards for maximum noise levels desired in Kern County, and to develop an implementation program which could effectively mitigate potential noise problems and not subject residential or other sensitive noise land uses to exterior noise levels in excess of 65 dBA L_{dn} , and interior noise levels in excess of 45 dBA L_{dn} .

In accordance with the Energy Element, Policy 10, of the General Plan, the County may also require the preparation of an acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses. Applicable goals, policies, and implementation measures from the County’s General Plan that are relevant to the proposed project are summarized below.

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	100%	100%	100%	100%	100%	100%	100%	
Residential – Multi-Family	100%	100%	100%	100%	100%	100%	100%	
Transient Lodging – Motel/Hotel	100%	100%	100%	100%	100%	100%	100%	
Schools, Libraries, Churches, Hospitals, Nursing Homes	100%	100%	100%	100%	100%	100%	100%	
Auditorium, Concert Hall, Amphitheaters	100%	100%	100%	100%	100%	100%	100%	
Sports Arena, Outdoor Spectator Sports	100%	100%	100%	100%	100%	100%	100%	
Playgrounds, Neighborhood Parks	100%	100%	100%	100%	100%	100%	100%	
Golf Courses, Riding Stables, Water Recreation, Cemeteries	100%	100%	100%	100%	100%	100%	100%	
Office Buildings, Business, Commercial and Professional	100%	100%	100%	100%	100%	100%	100%	
Industrial, Manufacturing, Utilities, Agriculture	100%	100%	100%	100%	100%	100%	100%	

Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements
Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
Clearly Unacceptable	New construction or development generally should not be undertaken.

SOURCE: State of California, Governor's Office of Planning and Research, 2003.

FIGURE 4.12-3: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENT

Chapter 3. Noise Element

3.3 Sensitive Noise Areas

Goals

- Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.
- Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.

Policies

- Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses,
- Policy 3: Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise,
- Policy 4: Utilize good land use planning principles to reduce conflicts related to noise emissions.
- Policy 7: Employ the best available methods of noise control.

Implementation Measures

- Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.
- Measure C: Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policies outlined in this element.
- Measure F: Require proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dB L_{dn} and interior noise levels in excess of 45 dB L_{dn} .
- Measure G: At the time of any discretionary approval, such as a request for a General Plan Amendment, zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall:
- a) Be the responsibility of the applicant.
 - b) Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.
 - c) Be subject to the review and approval of the Kern County Planning Department and the Environmental Health Services Department. All recommendations therein shall be complied with prior to final approval of the project.

- Measure 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 5. Energy Element

- 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.

Willow Springs Specific Plan

The southern portion of the project site is subject to the provisions of the Willow Springs Specific Plan (WSSP) in 2008, which contains goals, policies, and standards that are compatible with those in the Kern County General Plan, but are unique to the specific needs of the Willow Springs Area. The noise-related policies and measures contained in the WSSP that are applicable to the project are outlined below (Kern County Department of Planning and Development Services 2008). The WSSP limits nighttime and daytime noise levels to 55 dBA L_{50} and 45 dBA L_{50} , respectively sensitive land uses, which includes residential uses. Additionally, the average-daily noise levels for sensitive land uses are limited to 65 dBA $L_{dn}/CNEL$.

Noise Element

Goals

- Goal 2: To minimize disruption to the quality of life resulting from excessive noise.
- Goal 3: To maintain reasonable noise level standards, consistent with the Kern County Noise Element.

Policies

- Policy 1: Noise emissions from new development will be controlled and off-site levels limited to the standards of the Kern County General Plan Noise Element.

Policy 3: Land uses will be categorized in the following manner, and the noise level standards adopted in accordance with the Kern County Noise Element:

- **Sensitive Land Uses.** Noise level does not affect the successful operation of these particular activities. A wide variety of uses can be included in this category, including public utilities, transportation systems, and other noise-related uses.
- **Moderately Sensitive Land Uses.** Some degree of noise control must be present if these activities are to be successfully carried out. Included here are general business and recreational uses.
- **Sensitive Uses.** Lack of noise control will severely impact these uses, reducing the quality of life. This category primarily contains residential uses.
- **Highly Sensitive Uses.** A high degree of noise control is necessary for the successful operation of these activities. Examples include hospitals and churches.

Mitigation/Implementation Measures

Measure 2: The implementation measures of the Kern County Noise Element are hereby adopted by reference.

Kern County Code of Ordinances

Chapter 8.36 of the Kern County Code of Ordinances (County of Kern, 2010) also addresses noise issues, including acceptable hours of construction, and limitations on construction-related noise impacts on adjacent sensitive receptors. Noise producing construction activities that are audible to a person with average hearing ability at a distance of 150 feet from the construction site, 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. to 6:00 a.m. on weekdays, and 9:00 p.m. to 8:00 a.m. on weekends. However, the following exceptions are permitted:

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.

Groundborne Vibration

There are currently no federal, state, or local regulatory standards for groundborne vibration. However, the California Department of Transportation (Caltrans) has developed vibration criteria based on potential structural damage risks and human annoyance. While the proposed project would not be subject to Caltrans oversight, guidance published by the agency nonetheless provides groundborne vibration criteria that are useful in establishing thresholds of impact. Caltrans' threshold criteria pertaining to building damage and human annoyance for continuous and transient events are summarized in **Table 4.12-2, *Vibration Criteria for Structural Damage***, and **Table 4.12-3, *Vibration Criteria for Human Annoyance***, respectively, below.

As shown in Table 4.12-2, *Vibration Criteria for Structural Damage*, the structural damage threshold, at which there is a risk to normal structures from continuous or frequent vibration sources, is 0.3 in/sec PPV for older residential structures and 0.5 in/sec PPV for newer building construction. The 0.5 in/sec PPV threshold also represents the structural damage threshold applied to older structures for transient vibration sources.

TABLE 4.12-2: VIBRATION CRITERIA FOR STRUCTURAL DAMAGE

Structure and Condition	Vibration Level (in/sec PPV)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
Newer residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

NOTES:

Transient sources create a single isolated vibration event, such as blasting or ball drops. Traffic, train, and most construction vibrations are considered continuous.

in/sec ppv = inches per second peak particle velocity

SOURCE: Caltrans, 2013.

TABLE 4.12-3: VIBRATION CRITERIA FOR HUMAN ANNOYANCE

Human Response	Vibration Level (in/sec PPV)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.1
Annoying to people in buildings	—	0.2
Severe	2.0	0.4

NOTES:

Transient sources create a single isolated vibration event, such as blasting or ball drops. Traffic, train, and most construction vibrations are considered continuous.

in/sec ppv = inches per second peak particle velocity

— Not available.

SOURCE: Kern County, 2016.

As shown in Table 4.12-3, *Vibration Criteria for Human Annoyance*, with regard to human perception, vibration levels would begin to become distinctly perceptible at levels of 0.04 in/sec PPV for continuous or frequent vibration sources and 0.25 in/sec PPV for transient vibration sources. Continuous vibration levels are considered annoying for people in buildings at levels of 0.2 in/sec PPV.

4.12.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential noise and vibration impacts have been evaluated using a variety of resources, including the project's Noise Technical Report (ICF, 2019), provided in Appendix O of this EIR. Using these resources, described in more detail below, and professional judgment, impacts were analyzed according to CEQA significance criteria described in the subsequent section.

Construction Noise

Construction of the project is expected to occur over approximately 10 to 14 months, beginning in 2021. Project construction activities include ten activities: (1) move on; (2) site preparation and grading; (3) new access road construction; (4) gen-tie line construction; (5) internal roads construction; (6) operation and maintenance building construction; (7) electrical substation, battery storage and microwave tower construction; (8) transmission line construction; (9) concrete batch plant; and (10) solar array structural, underground and panel installation. The greatest project construction noise would be generated primarily from site preparation, construction, and installation of the solar panels on the project site; and vehicle traffic on access roads leading to the site from construction crew daily commutes and the transport of construction equipment and materials to the site. Transport of construction equipment would result in a relatively high, single-event, noise level generated at the source (e.g., a passing haul truck would generate up to 84 dBA L_{max} at 50 feet); however, the effect on longer-term (hourly or daily) ambient noise levels would be minimal.

The construction of the project would require various pieces of construction equipment. **Table 4.12-4, *Maximum Noise Levels of Project Construction Equipment***, lists the anticipated construction equipment required for project construction and the corresponding operational noise level, based on a usage factor, generated at a reference distance of 50 feet from the equipment.

As shown in Table 4.12-4, *Maximum Noise Levels of Project Construction Equipment*, the maximum noise levels for construction equipment expected to be used for project construction ranges from approximately 74 to 85 dBA L_{max} at 50 feet.

Project construction would occur in specific phases, each of which has its own mix of equipment types and number and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, also the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase.

The site preparation phase would include removal of vegetation and top soil, compactions of subgrade, and shaping of ditches and swales. The PV system installation phase of project construction would include the installation of the mounting and support structures. The structure supporting the PV module arrays at the project site would consist of cylindrical steel pipes, which would be driven into the soil using pneumatic techniques, similar to a hydraulic impact hammer attachment on the boom of a rubber-tired backhoe excavator.

TABLE 4.12-4: MAXIMUM NOISE LEVELS OF PROJECT CONSTRUCTION EQUIPMENT

Type of Equipment	Impact Device? (Yes/No)	Acoustical Usage Factor	(dBA L _{max} at 50 feet)
Forklift	No	20	75
Crane	No	16	81
Rubber-Tired Dozer	No	40	82
Generator Sets	No	50	81
Grader	No	40	85
Tractor/Loader/Backhoe	No	40	78
Roller	No	20	80
Skid Steers	No	40	78
Scraper	No	40	84
Trencher	No	30	85
Air Compressor	No	40	78
Welder	No	40	74
Post Drivers	Yes	25	88
Concrete Batch Plant	No	15	83
Crawler Tractors	No	40	84
Aerial Lifts	No	20	75
Other Construction Equipment	No	50	85
Warning Horn	No	5	83
Off-highway Trucks	No	40	77
Carts/ATVs	No	40	75

SOURCE: FHWA, 2008. Roadway Construction Noise Model.

For the purpose of this analysis, the composite hourly average noise levels for the multiple equipment items associated with each of the ten construction activity phases were calculated at a reference distance of 50 feet for use in estimating the noise levels at sensitive off-site receptors. **Table 4.12-5, *Noise Levels of Project Construction Phases***, provides estimated hourly average noise levels of multiple pieces of construction equipment associated with project construction phases.

As shown in Table 4.12-5, *Noise Levels of Project Construction Phases*, the solar array structural, underground, and panel installation phase would generate the highest noise levels of 95 dBA L_{eq} at 50 feet. The noise levels shown in Table 4.12-5 were then used to estimate the noise levels at nearby sensitive receptors based on their distance to the construction phase activities. Construction noise levels were predicted assuming an average noise attenuation rate of 6 dB per doubling of distance from the source and an excess noise-attenuation rate of 1 dB per 1,000 feet.

TABLE 4.12-5: NOISE LEVELS OF PROJECT CONSTRUCTION PHASES

Construction Phase	Noise Level (dBA Leq) at 50 feet
Move on	92
Site preparation and grading	93
New access road construction	92
Gen-tie line construction	87
Internal roads construction	88
O&M building construction	87
Electrical substation, battery storage & microwave tower construction	89
Transmission line construction	79
Concrete batch plant	79
Solar array structural, underground & panel installation	95
SOURCE: ICF, 2019	

Construction Traffic Noise

Project construction would also generate offsite noise from vehicle traffic on area roadways. Traffic noise from daily construction worker commute trips and haul truck trips would contribute to the existing traffic volumes, potentially increasing traffic noise levels along roadways used to access the project site. To evaluate the impact the project would have on the adjacent roadway system, noise associated with construction traffic has been calculated based on assumptions within the project traffic analysis. Because these local access roads do not experience frequent traffic on a daily basis, the project's construction traffic noise would have the greatest effect on sensitive receptors along and near these roads. As such, for the purpose of conducting a conservative analysis, the roadway noise levels were estimated by assigning 100 percent of the project's construction traffic to each of the potential local roadways that would be used during project construction to access the project site. The analysis of roadway noise levels from the project's construction traffic was conducted using a proprietary traffic noise model, with calculations based on data from the Federal Highway Administration (FHWA) Traffic Noise Model, Version 2.5, Look-Up Tables (FHWA 2004). This model allows for the calculation of noise levels at specific distances from the center of the roadway based on traffic volumes, average speeds, and site environmental conditions. The proposed project's estimated construction-related traffic noise levels on local roadways were assessed against the County's 24-hour average exterior noise level of 65 dBA CNEL.

Project construction would occur in accordance with all federal, State, and Kern County zoning codes and requirements. Site preparation would be consistent with Kern County's construction best management practices (BMPs). Noise-generating construction activities would be limited to the County's allowable construction hours, noted above. Stationary equipment with the potential to generate a substantial increase in noise or vibration levels would be located away from noise sensitive receptors to the extent feasible to minimize potential noise and vibration levels.

Decommissioning Noise

The project facility has an anticipated operational life of 35 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 does not warrant a separate analysis and instead will be assessed using the analysis provided for the project's construction noise impacts.

Operational Stationary-Source Noise

Operation of the project would generate noise levels generally from the onsite operation of the substation facility, the O&M facility, battery energy storage system (BESS), block inverters, axis trackers, and periodic maintenance activities such as panel washing. Additionally, corona discharge noise emanating from the transmission lines would also be generated. Representative noise level data for these noise sources obtained from noise assessments prepared for similar projects and field measurements (i.e., BESS) were used to estimate the noise levels in the project site vicinity during project operations. Operational noise levels were predicted assuming an average noise-attenuation rate of 6 dB per doubling of distance from the source and an excess noise-attenuation rate of 1 dB per 1,000 feet. Operational noise levels were calculated at the project site property lines and nearby land uses for comparison to the County noise standards.

Each of the individual noise sources associated with project operations are described further below.

Substation

The project would be served by an on-site substation. Equipment at the project substation would include transformers, bus work, switches, breakers, and all associated equipment required to be compliant with utility-grade interconnection services. Noise generated from the substation facility would primarily be from the transformers, which generate a “humming” or “buzzing” noise up to 68 dBA L_{eq} during non-load nighttime conditions and 70 dBA L_{eq} during daytime conditions, at a reference distance of 3 feet. As the project's substation is proposed to be located in one of three potential locations within the project site, for the purpose of this analysis noise levels generated at the nearest proposed substation location to each analyzed off-site receptor are used to assess the potential for noise impacts.

Power Conversion Stations

Within the proposed solar arrays across the project site, there would be power conversion stations (PSC) that would contain at a minimum one inverter and one transformer. Inverters are usually housed within an enclosed structure, which helps to reduce the resulting operational noise levels. In addition, PCSs would also be anticipated to include an exhaust fan, as well as a heating, ventilation, and air conditioning (HVAC) system, which is typically mounted to the exterior of the enclosure. Noise levels generated by PCSs would be up to 55 dBA L_{eq} during non-load nighttime conditions and up to 70 dBA L_{eq} during full-load daytime conditions, at a reference distance of 10 feet, and be associated with operation of the inverters (housed within an enclosed structure), transformer (mounted at the interior of the structure), exhaust fans, and exterior-mounted HVAC systems.

Battery Energy Storage System

The project would incorporate up to 60 MW of BESS within the project site. The BESS would either be collocated within or adjacent to the proposed substation, collocated within the O&M facility, or distributed throughout the project's solar arrays by collocating a single BESS container with each of the project's block inverters, with the BESS and the inverter housed in the same container.

The BESS containers would house batteries connected in strings and housed on racks, and each container would contain a transformer, monitoring equipment, lighting, and cooling equipment. Up to 90 BESS containers are anticipated to be used at the project site. Each container would be approximately 80 feet long by 8 feet wide and 8 feet tall.

BESS could be incorporated through one of three different methods: (1) all BESS containers consolidated within the project substation area; (2) BESS equipment distributed throughout the project's solar arrays by collocating a single BESS container with each of the project's block inverters, with the BESS and the inverter housed in the same container; or (3) BESS equipment collocated with the O&M facility. As the method of BESS incorporation at the project site would affect the noise source locations for this system, noise levels at the analyzed sensitive receptors are analyzed under all three incorporation method scenarios in this analysis. Under method 2, depending on design and electrical connection, some of the BESS containers would house the project's block inverters, while other BESS containers would be accompanied by separate PCS units installed among the solar arrays. For the purpose of conducting a conservative analysis, it is assumed that all of the BESS containers under method 2 (i.e., distributed throughout the project's solar arrays) would be accompanied by separate PCS units rather than having these units housed within the BESS containers as this scenario would render higher operational noise levels. The BESS noise levels associated with methods 1 and 3 would be up to 98 dBA L_{eq} and with method 2 would be up to 82 dBA L_{eq} , at a reference distance of 10 feet.

Electrical Transmission Lines

The proposed project includes preferred and alternative gen-tie routes, although only one route would be constructed. These overhead transmission lines would be carried via new existing electrical poles to the Valentine Substation, the Catalina Solar Project Substation, or the Rose Meadow Substation. The overhead electrical lines would emit noise levels associated with corona discharge, which is an electrical discharge that ionizes the surrounding area. The noise associated with corona discharge for a 230-kV line is typically described as a crackling or humming sound with a noise level of 25 dBA L_{eq} at 25 feet.

Axis Trackers

The project's PV modules would use either fixed-tilt or tracker technology. If the proposed project opts for tracker technology (which would be the worst case option related to noise), intermittent noise would be generated from the operation of electrical motors used to power the trackers to allow them to tilt the PV panels to follow the course of the sun and optimize the incident angle of sunlight on their surface. A noise level of up to 37 dBA L_{eq} at 400 feet would be generated by these trackers and occur intermittently throughout the daytime hours at the project site.

O&M Facility/Onsite Maintenance Activities

The project would be operated from the on-site O&M facility, which would include a building and storage yard. Up to 12 full-time staff may be required for operational activities of the facility, which includes site inspection, security, maintenance, and system monitoring. The final location of the O&M facility and battery storage yard could occur anywhere within the project's Conditional Use Permit (CUP) area. The O&M building would house the facility electronic controls and communications systems; provide storage for tools, maintenance supplies, and spare parts; and provide on-site office, kitchen, and bathroom facilities for operations staff. Operation of the O&M building would generate noise levels of up to 79 dBA L_{eq} at a reference distance of 10 feet, primarily from operation of the building's HVAC unit.

The maintenance activity of washing of the solar panels, which is anticipated to occur up to two times a year over a period of 10 days, would generate noise levels of up to 82 dBA L_{eq} at a reference distance of 10 feet. Noise levels from panel washing would primarily be generated from the use of portable power equipment, such as power washers. However, panel washing for the project would be temporary and would only occur during daytime work hours. The activity at any one particular area within the project site would be relatively brief before the activity moves away to another area.

Operational Traffic Noise

The bi-annual washing of the solar panels required for the proposed project would typically be carried out over a period of 10 days, and is expected to generate approximately 24 worker commute trips per day and 66 haul truck trips per day for the transport of water to the project site. As the daily vehicle and truck trips associated with panel washing activities would represent the highest generator of traffic during project operations, this scenario was used to access the traffic noise levels generated by the project. The analysis of the project's operational traffic noise was conducted using a proprietary traffic noise model, with calculations based on data from the FHWA Traffic Noise Model, Version 2.5, Look-Up Tables (FHWA 2004). This model allows for the calculation of noise levels at specific distances from the center of the roadway based on traffic volumes, average speeds, and site environmental conditions. To quantify the effects of the proposed project, the roadway noise level that would be generated by the project's operational traffic volumes along a local roadway used to access the project site were estimated and assessed against the County's average-daily noise level standard. Based on the estimated worker vehicle and truck trips for panel washing activities, the project's operational vehicle traffic would generate noise levels of approximately 52 dBA CNEL or less, at 50 feet from the centerline of the roadway.

Construction Groundborne Vibration

Groundborne vibration is almost exclusively a concern for buildings and their inhabitants, and is rarely perceived as a problem outdoors, where the motion may be discernable, but without the effects associated with the shaking of a building there is less adverse reaction. Groundborne vibration during construction activity is temporary and would cease to occur after project construction is completed. **Table 4.12-6, *Vibration Source Amplitudes for Construction Equipment***, shows the vibrational levels for typical construction equipment at a reference distance of 25 feet.

TABLE 4.12-6: VIBRATION SOURCE AMPLITUDES FOR CONSTRUCTION EQUIPMENT

Equipment	Reference PPV/L _V at 25 feet	
	PPV (in/sec)	L _V (VdB) ^a
Pile Driver (Impact), Typical	0.644	104
Pile Driver (Sonic), Typical	0.170	93
Post Driver^b	0.161	92
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer^b	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

NOTES:

^a RMS vibration velocity in decibels (VdB) re 1 µin/sec.^b Calculated based on a reference level of 0.65 in/sec PPV for a 36,000 foot-pounds (ft-lbs) pile driver and a maximum energy level of 2,200 ft-lbs for post drivers.Equipment shown in **bold** is expected to be used on the project site.

µin/sec = micro-inches per second

FTA = Federal Transit Administration

in/sec = inches per second

L_V = velocity in decibels

PPV = peak particle velocity

RMS = root-mean-square

VdB = vibration velocity in decibels

SOURCE: FTA, 2018

Groundborne vibration may be induced by traffic and construction activities, such as earthmoving. The project would require the use of various equipment during construction that could generate vibration, such as cranes, graders, vibratory rollers, scrapers, tractors/loaders/backhoes, trenchers, and post drivers. The erection of the solar arrays would include support structures that may need to be driven into the soil using post drivers, which could cause localized vibrations. Of the various equipment that would be used at the project site, the vibratory roller would generate the highest vibration level, 0.210 in/sec PPV at 25 feet, as shown in Table 4.12-6, *Vibration Source Amplitudes for Construction Equipment*. Based on the vibration levels at a reference distance of 25 feet presented in Table 4.12-6 for the equipment that would be used for project construction, the resulting vibration levels at the closest vibration-sensitive receivers to the project site were then estimated based on the worst-case (closest) distance between each source and receiver using an equation recommended in Caltrans' *Transportation and Construction Vibration Guidance Manual* (Caltrans 2013) for estimating the change in vibration levels over distance.

Operational Vibration Impacts

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

The Kern County California Environmental Quality Act (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 noise.

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.

Kern County determined in the Notice of Preparation/Initial Study (NOP/IS) that the following environmental issue area would result in no impact or a less-than-significant impact and, therefore, is scoped out of this EIR. Please refer to Appendix A of this EIR for a copy of the NOP/IS and additional information regarding this issue area:

- 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.

As discussed in the NOP/IS, the proposed project is not located within the boundaries of an Airport Influence Area, as identified in the Kern County ALUCP (County of Kern, 2012). The nearest public airstrip is the Rosamond Airport, located approximately 10 miles to the southeast of the project site. The nearest public airport/public use airport is located more than five miles away from the project site. Therefore, there would be no significant impact resulting from people residing or working within a Kern County ALUCP or in the vicinity of a private airstrip being exposed to excessive noise levels from the project.

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 PM and 6:00 AM on weekdays and 9:00 PM and 8:00 AM 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 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} . Additionally, the WSSP further identifies both daytime and nighttime noise standards for land uses in the WSSP area, of which the proposed project occupies approximately 1,298 acres. For sensitive land uses, which include residential uses, the WSSP has established operational noise limitations of 55 dBA L_{50} during the daytime hours and 45 dBA L_{50} during the nighttime hours. The WSSP also identifies an average daily (24-hour) noise level limit of 65 dBA L_{dn} /CNEL for residential 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 that are within the WSSP area are evaluated based on the daytime and nighttime noise level limitations established by the WSSP, while the nearby noise-sensitive land uses that are outside of the WSSP area are evaluated based on the County's 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 WSSP noise standards at the outdoor activity area of the nearest noise-sensitive land use.

Excessive Groundborne Vibration

Kern County does not have regulations that define acceptable levels of vibration. For the purposes of assessing potential groundborne vibration impacts associated with the proposed project, Caltrans's vibration criteria for potential structural damage risks and human annoyance was used in this analysis. Accordingly, groundborne vibration levels would be considered significant if predicted short-term construction or long-term operational groundborne vibration levels attributable to the proposed project would exceed the recommended criteria for structural damage or human annoyance (i.e., 0.25 and 0.2 in/sec PPV, respectively) at the nearest offsite existing structure (refer to Tables 4.12-3, *Vibration Criteria for Structural Damage*, and 4.12-4, *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 groundborne vibration.

Project Impacts

Impact 4.12-1: The project would result in 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.

Construction

Construction Traffic

Project construction would generate off-site traffic noise from vehicle traffic on area roadways. Traffic noise from daily construction worker commute trips and truck trips would contribute to the existing traffic volumes, potentially increasing traffic noise levels along roadways used to access the project site. Under peak construction conditions, it is anticipated that a total of 990 worker vehicle trips and 158 heavy truck trips (combined inbound and outbound) would occur on a daily basis (Ruettgers & Schuler Civil Engineers, 2019). To evaluate the potential noise impact the project would have on the adjacent roadway system, the project traffic analysis, as provided in Section 4-15, *Transportation*, and Appendix P, of this EIR, conducted separate analyses that assigned 100 percent of the project's construction traffic to each of the project site's access routes (i.e., 140th Street West, 130th Street West, Avenue of the Stars, 105th Street West, and Hamilton Road). Because these local access roads do not experience frequent traffic on a daily basis, the project's construction traffic noise would have the greatest effect on sensitive receptors along and near these roads. As such, for the purpose of this analysis, the roadway noise levels that would be generated from vehicular travel by 100 percent of the project's construction-related traffic were estimated and assessed against the County's average-daily noise level of 65 dBA CNEL.

Based on the anticipated traffic volumes that would occur under peak construction conditions (i.e., 990 worker vehicle trips and 158 heavy truck trips), it was determined that the estimated traffic noise level on any of the potential local access routes that can be used to access the project site would be approximately 56 dBA CNEL, which would be below the County's average-daily noise standard. Therefore, overall short-term construction related impacts associated with worker commute and equipment transport to and around the project site would be less than significant.

Construction Activities

Multiple pieces of equipment would operate at substantial distances from one another as construction activities occur throughout the project site. As shown in Table 4.12-4, *Maximum Noise Levels of Project Construction Equipment*, maximum noise levels generated by project construction equipment would range from approximately 74 to 88 dBA L_{max} at a reference distance of 50 feet. As shown in Table 4.12-5, *Noise Levels of Project Construction Phases*, average noise levels generated by project construction phases would range from approximately 79 to 95 dBA L_{eq} at a reference distance of 50 feet.

Sensitive land uses in the project site vicinity that would be exposed to project construction noise levels include the sparsely distributed residential dwellings that are in the vicinity of the project site. Potential construction-related noise impacts resulting from the proposed project were assessed at nine representative sensitive receptors nearest to and surrounding the project site (three of which are immediately adjacent to the

project site boundary), including two locations that are located in proximity to both the project site and the proposed gen-tie routes located off site. These nine receptors would be representative of the worst-case impacted receptors and impacts at sensitive uses located at greater distances to the project site would be lower.

The construction noise levels estimated at each analyzed receptor use a source-to-receptor distance that represents the acoustical average distance between the construction area and each receptor in order to reflect the distribution of equipment across the construction area. The shortest distance that is used in determining the acoustical average distance is from the analyzed sensitive receptor to the nearest project site boundary. However, in most cases this represents a conservative assumption, as it is anticipated that buffer distances of approximately 100 feet would be implemented along most of the project's external boundaries during construction. The highest estimated construction-related noise levels that could result at nearby sensitive receptors over the course of the project's construction period would range from 59 dBA L_{eq} to 79 dBA L_{eq} . During quieter phases of construction or when construction activity moves farther away from the receptor, the noise levels would decrease. As such, the highest construction noise levels experienced at each analyzed receptor would only occur over a temporary period within the project's overall construction schedule.

Chapter 8.36 of the Kern County Municipal Code includes established hours of construction and limitations on construction related noise impacts on adjacent sensitive receptors. Noise producing construction activities 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, when they 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. Given the fact that construction activities could generate noise greater than the standard 65dB(a) for the Kern County General Plan and 55 dB(A) for short period of times, temporary construction impacts are considered significant and unavoidable. Implementation of Mitigation Measures MM 4.12-1 through MM 4.12-3 are designed to reduce impacts to the extent feasible during construction activities.

Operation

Operational Activities

Estimated operational noise levels at studied sensitive receptors have been determined based on their respective nearest distance to each of the project's applicable noise sources. **Table 4.12-7, *Distance from Project Stationary Equipment to Noise Level Standards***, shows the project noise source and the distance at which the project would comply with applicable daytime and nighttime thresholds (45 dBA L_{eq}/L_{50} nighttime and 55 dBA L_{eq}/L_{50} daytime within the WSSP and 65 dBA L_{dn} within the County).

As all of the identified operational noise sources, with the exception of the periodic on-site maintenance activities, would be operating on a daily basis, the composite noise level generated from the concurrent operation of these noise sources (e.g., tracker system, BESS, substation) at the nearby sensitive receptors were estimated. On-site maintenance activities, such as panel washing, would be transient (up to twice per year) and, thus, would not occur for an extended duration at any one location and would only occur during daytime hours. As such, they have not been included in the composite noise analysis. As shown in Table 4.12-7, the noise contour distance to the applicable WSSP daytime noise standard (55 dBA L_{50}) for onsite maintenance activities is 224 feet. Of the nearby analyzed sensitive receptors surrounding the project site that are within the WSSP area, only one sensitive receptor is located within this distance. This sensitive receptor, which is estimated to be located as close as approximately 250 feet from the nearest proposed solar panels, is expected to experience noise levels of approximately 54 dBA L_{eq}/L_{50} when operation of a power washer for panel washing is occurring at this distance, which would not exceed the daytime noise standard of 55 dBA L_{50} of the WSSP.

TABLE 4.12-7: DISTANCE FROM PROJECT STATIONARY EQUIPMENT TO NOISE LEVEL STANDARDS

Noise Source	Distance to Noise Level Contour (feet) ^a		
	Nighttime (45 dBA Leq/L50)	Daytime (55 dBA Leq/L50)	65 dBA Ldn
Substation Transformer	42	17	9
PCS	32	56	15
BESS			
Methods 1 and 3	3,120	1,230	610
Method 2	708	224	97
Transmission Line Corona Discharge	WC	WC	WC
Horizontal Single-Axis Tracker & Dual-Axis Tracker Systems	NA	50	13
O&M Building	NA	158	40
On-Site Maintenance Activities	NA	224	56

NOTES

^a Contour distances represent the distance from the noise source where resulting noise levels would comply with the WSSP's daytime and nighttime noise standards, which are 55 dBA Leq/L50 and 45 dBA Leq/L50, respectively, and the County's 65 dBA Ldn exterior noise standard for noise sensitive land uses.

WC = Within transmission line corridor

NA = Not applicable (i.e., noise source not operating during nighttime hours)

SOURCE: ICF, 2019.

As discussed previously, the project's BESS could be incorporated through one of three different methods, with each method resulting in the placement of BESS containers in different areas within the project site. Under BESS incorporation method 1, the combined operational stationary equipment noise levels from the project would expose studied receptors within the WSSP Area to noise levels ranging from 26 to 34 dBA Leq during nighttime hours and 31 to 43 dBA Leq during daytime hours. As shown in **Table 4.12-8, *Estimated Stationary Equipment Noise Levels at Analyzed Sensitive Receptors***, these levels would not exceed WSSP nighttime or daytime standards of 55 dBA Leq/L50 and 45 dBA Leq/L50, respectively. However, one studied receptor located outside of the WSSP Area would be exposed to 24-hour average noise levels of up to 67 dBA Ldn, which exceeds the County's exterior noise standard of 65 dBA Ldn for noise sensitive land uses. The exceedance of the County noise level standard is due to the location of the consolidated BESS containers in direct proximity to this affected receptor. Therefore, under BESS incorporation method 1, the project's on-site stationary noise source levels would result in a potentially significant impact.

Under the BESS incorporation method 2, the combined operational stationary equipment noise levels from the project would expose studied receptors within the WSSP Area to noise levels ranging from 18 to 54 dBA Leq during nighttime hours and 19 to 54 dBA Leq during daytime hours, as shown in Table 4.12-8. These levels would not exceed the WSSP daytime standard. However, the WSSP nighttime standard of 45 dBA Leq/L50 would be exceeded. The exceedance of the nighttime noise level standards at studied receptors is due to the location of proposed individual BESS containers throughout the project's solar array. Studied receptors located outside of the WSSP Area would be exposed to average daily noise levels of 27 to 38 dBA Ldn, which would not exceed the County's exterior noise standard of 65 dBA Ldn. However, because the

WSSP nighttime standard would be exceeded, the project's on-site stationary noise source levels that accounts for BESS incorporation method 2 would result in a potentially significant impact.

TABLE 4.12-8: ESTIMATED STATIONARY EQUIPMENT NOISE LEVELS AT ANALYZED SENSITIVE RECEPTOR

Receptor ^b	Highest Estimated Average Hourly Noise Level (dBA L _{eq} /L ₅₀) ^a				Estimated Daily Average Noise Level (dBA L _{dn})	
	Nighttime	Exceed Standard? ^c	Daytime	Exceed Standard? ^d	24-Hour Average	Exceed Standard? ^e
BESS Incorporation Method 1^f						
<i>Within WSSP Area:</i>						
SR1	31	No	31	No	—	—
SR3	29	No	43	No	—	—
SR4	28	No	31	No	—	—
SR5	33	No	39	No	—	—
SR6	34	No	37	No	—	—
SR7	26	No	44	No	—	—
<i>Outside WSSP Area:</i>						
SR2	—	—	—	—	67	Yes
SR8	—	—	—	—	33	No
SR9	—	—	—	—	41	No
BESS Incorporation Method 2^g						
<i>Within WSSP Area:</i>						
SR1	18	No	19	No	—	—
SR3	53	Yes	53	No	—	—
SR4	32	No	34	No	—	—
SR5	48	Yes	48	No	—	—
SR6	43	No	44	No	—	—
SR7	54	Yes	54	No	—	—
<i>Outside WSSP Area:</i>						
SR2	—	—	—	—	27	No
SR8	—	—	—	—	38	No
SR9	—	—	—	—	33	No

TABLE 4.12-8: ESTIMATED STATIONARY EQUIPMENT NOISE LEVELS AT ANALYZED SENSITIVE RECEPTOR

Receptor ^b	Highest Estimated Average Hourly Noise Level (dBA L _{eq} /L ₅₀) ^a				Estimated Daily Average Noise Level (dBA L _{dn})	
	Nighttime	Exceed Standard? ^c	Daytime	Exceed Standard? ^d	24-Hour Average	Exceed Standard? ^e
BESS Incorporation Method 3^h						
<i>Within WSSP Area:</i>						
SR1	30	No	30	No	—	—
SR3	37	No	43	No	—	—
SR4	45	Yes	45	No	—	—
SR5	41	No	42	No	—	—
SR6	39	No	40	No	—	—
SR7	59	Yes	59	Yes	—	—
<i>Outside WSSP Area:</i>						
SR2	—	—	—	—	36	No
SR8	—	—	—	—	47	No
SR9	—	—	—	—	37	No

^a Noise levels represent the highest estimated operational noise levels based on the project's stationary equipment identified in Table 4.12-7. The noise levels account for simultaneous operation of onsite noise equipment. For the purpose of the evaluating the project's stationary equipment operational noise levels against the applicable WSSP noise standards, the L_{eq} and L₅₀ noise levels are assumed to be equivalent.

^b Receptor locations are depicted on Figure 4.12-2

^c Nighttime noise standard is 45 dBA L₅₀ established under WSSP.

^d Daytime noise standard is 55 dBA L₅₀ established under WSSP.

^e The County's exterior noise standard for noise sensitive land uses is 65 dBA L_{dn}.

^f BESS is incorporated by consolidating all BESS containers within the project substation area.

^g BESS is incorporated by distributing equipment throughout the project's solar arrays, where a single BESS container is collocated with each of the project's block inverters, with the BESS and the inverter housed in the same container.

^h BESS is incorporated by collocating all BESS containers with the O&M facility in a battery storage facility yard.

SOURCE: ICF, 2019

Under BESS incorporation method 3, the combined operational stationary equipment noise levels from the project would expose studied receptors within the WSSP Area to noise levels ranging from 30 to 59 dBA L_{eq} during both nighttime and daytime hours. As shown in Table 4.12-8, these levels would exceed WSSP nighttime and daytime standards. The exceedance of the WSSP's noise standards is due to the location of the BESS containers near the studied receptors. Studied receptors located outside of the WSSP Area would be exposed to 24-hour average daily noise levels of 36 to 47 dBA L_{dn}, which would not exceed the County's standard of 65 dBA L_{dn}. However, because the WSSP nighttime and daytime noise standards would be exceeded, the project's on-site stationary noise source levels that accounts for BESS incorporation method 3 would result in a potentially significant impact.

To reduce the potential operational noise impacts associated with associated with BESS incorporation methods 1, 2, and 3 at affected receptors, as described above, Mitigation Measure MM 4.12-4 would be implemented, requiring the final BESS incorporation method that is selected to be designed, such that noise

levels generated would comply with the applicable noise standards at all offsite sensitive receptor locations nearest to the project site.

Operational Traffic

The daily maintenance vehicle trips at the project site would not create a substantial increase of vehicular noise along access roads to the project site. As assumed in the traffic analysis prepared for the project, the project would not result in a doubling of the traffic volumes on roadways accessing the project site, and therefore, the noise level increase would be substantially below a perceptible level of a 3 dBA increase. Additionally, operational traffic is not expected to exceed established thresholds identified within the Kern County General Plan and Willow Springs Specific Plan. As such, operational traffic noise levels from operation of the project would be minimal, and impacts would be less than significant.

Decommissioning

Activities associated with a potential decommissioning of the project would result in similar or lower noise levels than those that would be experienced under the loudest phases of construction. As temporary increases in ambient noise levels at nearby sensitive receptors would likely occur similar to the project's construction activities, decommissioning activities could generate noise greater than the standard 65dB(A) for the Kern County General Plan and 55 dB(A) for short period of times. Thus, similar to construction, impacts during decommissioning of the project are considered significant and unavoidable. Mitigation Measures MM 4.12-1 through MM 4.12-3 would similarly be implemented during decommissioning activities.

Mitigation Measures

Kern County

- MM 4.12-1:** The following measures are to be implemented to further reduce short-term noise levels associated with project construction and decommissioning:
- a) Construction and decommissioning activities at the project site shall comply with the hourly restrictions for noise-generating construction activities, as specified in the County's Code of Ordinances, Chapter 8.36. Accordingly, construction activities shall be prohibited between the hours of 9:00 p.m. to 6:00 a.m. on weekdays, and between 9:00 p.m. to 8:00 a.m. on weekends. These hourly limitations shall not apply to activities where hourly limitations would result in increased safety risk to workers or the public, such as commissioning and maintenance activities that must occur after dark to ensure photovoltaic arrays are not energized, unanticipated emergencies requiring immediate attention, or security patrols.
 - b) Equipment staging and laydown areas shall be located at the furthest practical distance from nearby residential land uses. To the extent possible, staging and laydown areas should be located at least 500 feet of existing residential dwellings.
 - c) Construction equipment shall be fitted with noise-reduction features such as mufflers and engine shrouds that are no less effective than those originally installed by the manufacturer.

- d) Haul trucks shall not be allowed to idle for periods greater than five minutes, except as needed to perform a specified function (e.g., concrete mixing).
- e) Onsite vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency).
- f) Back-up beepers for all construction equipment and vehicles shall be broadband sound alarms or adjusted to the lowest noise levels possible, provided that the Occupational Safety and Health Administration and California Division of Occupational Safety and Health's safety requirements are not violated. On vehicles where back-up beepers are not available, alternative safety measures such as escorts and spotters shall be employed.

MM 4.12-2: Prior to the issuance of grading permits, a “noise disturbance coordinator” shall be established. The project operator shall submit evidence of methods of implementation and shall continuously comply with the following during construction: The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures such that the complaint is resolved.

MM 4.12-3: Prior to the issuance of grading permits, the project operator shall submit evidence of the following: Construction contracts shall specify that notices shall be sent out to all residences within 1,000 feet of the construction areas at least 15 days prior to commencement of construction. The notices shall include the construction's schedule and a telephone number where complaints can be registered with the noise disturbance coordinator. A sign legible at a distance of 50 feet shall also be posted at the construction site throughout construction, which includes the same details as the notices.

MM 4.12-4: The project shall be designed to ensure that operational noise levels at nearby sensitive receptors, depending on their location within or outside of the WSSP area, would not exceed the applicable WSSP or County noise standards. Techniques that can be incorporated into the BESS design to achieve compliance with the applicable noise standards may include, but are not limited to, the following:

- Place HVAC units on the far side of the BESS containers relative to the nearest off-site sensitive receptors to allow the containers to act as a barrier to provide noise attenuation.
- Erect permanent noise barriers of sufficient height to attenuate noise levels from the BESS containers.
- Provide a sufficient buffer distance between the BESS containers and the nearest off-site receptor.
- The adequacy of the selected noise control technique(s) shall be demonstrated in an acoustical study submitted to and approved by the County prior to the issuance of building permits.

State Lands Commission

MM 4.12-1: The following measures are to be implemented to further reduce short-term noise levels associated with project construction and decommissioning:

- a) Construction and decommissioning activities at the project site shall comply with the hourly restrictions for noise-generating construction activities, as specified in the County's Code of Ordinances, Chapter 8.36. Accordingly, construction activities shall be prohibited between the hours of 9:00 p.m. to 6:00 a.m. on weekdays, and between 9:00 p.m. to 8:00 a.m. on weekends. These hourly limitations shall not apply to activities where hourly limitations would result in increased safety risk to workers or the public, such as commissioning and maintenance activities that must occur after dark to ensure photovoltaic arrays are not energized, unanticipated emergencies requiring immediate attention, or security patrols.
- b) Equipment staging and laydown areas shall be located at the furthest practical distance from nearby residential land uses. To the extent possible, staging and laydown areas should be located at least 500 feet of existing residential dwellings.
- c) Construction equipment shall be fitted with noise-reduction features such as mufflers and engine shrouds that are no less effective than those originally installed by the manufacturer.
- d) Haul trucks shall not be allowed to idle for periods greater than five minutes, except as needed to perform a specified function (e.g., concrete mixing).
- e) Onsite vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency).
- f) Back-up beepers for all construction equipment and vehicles shall be broadband sound alarms or adjusted to the lowest noise levels possible, provided that the Occupational Safety and Health Administration and California Division of Occupational Safety and Health's safety requirements are not violated. On vehicles where back-up beepers are not available, alternative safety measures such as escorts and spotters shall be employed.

MM 4.12-2: Prior to the issuance of grading permits, a "noise disturbance coordinator" shall be established. The project operator shall submit evidence of methods of implementation and shall continuously comply with the following during construction: The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures such that the complaint is resolved.

MM 4.12-3: Prior to the issuance of grading permits, the project operator shall submit evidence of the following: Construction contracts shall specify that notices shall be sent out to all residences within 1,000 feet of the construction areas at least 15 days prior to commencement of construction. The notices shall include the construction's schedule and a telephone number where complaints can be registered with the noise disturbance coordinator. A sign legible at a distance of 50 feet shall also be posted at the construction site throughout construction, which includes the same details as the notices.

MM 4.12-4: The project shall be designed to ensure that operational noise levels at nearby sensitive receptors, depending on their location within or outside of the WSSP area, would not exceed the applicable WSSP or County noise standards. Techniques that can be incorporated into the BESS design to achieve compliance with the applicable noise standards may include, but are not limited to, the following:

- Place HVAC units on the far side of the BESS containers relative to the nearest off-site sensitive receptors to allow the containers to act as a barrier to provide noise attenuation.
- Erect permanent noise barriers of sufficient height to attenuate noise levels from the BESS containers.
- Provide a sufficient buffer distance between the BESS containers and the nearest off-site receptor.
- The adequacy of the selected noise control technique(s) shall be demonstrated in an acoustical study submitted to and approved by the County prior to the issuance of building permits.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measure MM 4.12-1 through MM 4.12-3, temporary impacts associated with construction and decommissioning activities would be considered significant and unavoidable.

With implementation of Mitigation Measure MM 4.12-4, operational impacts would be reduced to less-than-significant levels.

State Lands Commission

With implementation of Mitigation Measure MM 4.12-1 through MM 4.12-3, temporary impacts associated with construction and decommissioning activities would be considered significant and unavoidable.

With implementation of Mitigation Measure MM 4.12-4, operational impacts would be reduced to less-than-significant levels.

Impact 4.12-2: The project would generate excessive groundborne vibration or groundborne noise levels.

Heavy construction equipment operating at the project site would generate groundborne vibration that could affect nearby residential structures or residents. The project site is currently surrounded by sparsely distributed residential dwellings. For the purposes of assessing potential structural damage, these nearby residential structures are considered to be “old buildings”, which have an applicable structural damage criterion of 0.25 in/sec PPV (see Table 4.12-2, *Vibration Criteria for Structural Damage*). Based on the vibration levels associated with the types of construction equipment that would be used during project construction, the range of vibration levels that could occur at the analyzed sensitive receptors to the project site would a maximum of 0.029 in/sec PPV, which would not exceed the applicable structural damage

criteria of 0.25 in/sec PPV. Therefore, groundborne vibration impacts resulting from project construction would be less than significant.

Since operations of the project would involve mostly regular maintenance trucks accessing the project site (0.076 in/sec PPV) and panel washing activities (not measurable) at a sufficient distance from structures (i.e., over 100 feet away from structures), project-related vibration impacts would be minimal and are not expected to have any measurable effect on the adjacent offsite sensitive receivers. Therefore, there would be no operational vibration impacts.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

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 associated with BESS incorporation methods 1, 2, and 3 would result in a potentially significant impact. Average daytime ambient noise levels at studied receptors range from 29.7 dBA L_{eq} to 34.2 dBA L_{eq} , while noise levels associated with BESS incorporation would reach 59 dBA L_{eq} , potentially resulting in increases in ambient noise levels above the applicable daytime and nighttime thresholds (45 dBA L_{eq}/L_{50} nighttime and 55 dBA L_{eq}/L_{50} daytime within the WSSP and 65 dBA L_{dn} within the County). The proposed gen-tie line would result in electrical discharge (corona discharge) noise that would not be perceptible above background noise levels at the nearest sensitive receptor. Operational traffic noise levels from operation of the project would be minimal and therefore, the noise level increase would be substantially below the perceptible level of a 3 dBA increase. Therefore, there would be a potentially significant impact associated with BESS incorporation methods 1,2, and 3.

With implementation of Mitigation Measure MM 4.12-4, the final BESS incorporation method that is selected would be designed such that noise levels generated would comply with the applicable daytime and nighttime noise standards at all offsite sensitive receptor locations nearest to the project site. Therefore, in with implementation of Mitigation Measure MM 4.12-4, impacts would be reduced to less-than-significant levels.

Mitigation Measures

Kern County

Implementation of Mitigation Measure MM 4.12-4 would be required.

State Lands Commission

Implementation of Mitigation Measure MM 4.12-4 would be required.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measure MM 4.12-4, impacts would be reduced to less-than-significant levels.

State Lands Commission

With implementation of Mitigation Measure MM 4.12-4, impacts would be reduced to less-than-significant levels.

Cumulative Setting, Impacts, and Mitigation Measures

As described in Chapter 3, *Project Description*, there are a total of 56 projects in the vicinity to the project site, 13 of which are located within the 1-mile cumulative radius of the project site, as shown on **Figure 3-10, Cumulative Projects Map – Eastern Kern County**. As listed in **Table 3-4, Cumulative Projects List**, the cumulative projects located within a 6-mile radius of the project site include other solar projects, such as, RE Rosamond One and Two, Rosamond Solar Array, Apollo Solar, Camino Solar, AVEP Solar, Catalina Solar, Valentine Solar, and IP Solar. 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, but would have limited cumulative contributions because of their distance from the project site.

As discussed previously, construction noise is currently regulated in Chapter 8.36 (Noise Control) of the Kern County Code of Ordinances through the establishment of acceptable hours of construction and limitations on construction-related noise impacts on adjacent sensitive uses. Specifically, noise created from 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 from 9:00 p.m. to 6:00 a.m. on weekdays, and 9:00 p.m. to 8:00 a.m. on weekends. The cumulative projects nearest to the project site are all either adjacent or close to the proposed project. Therefore, should construction of the proposed project and any of the cumulative projects occur currently, cumulative construction noise impacts would occur. As construction of the proposed project would result in significant and unavoidable impacts, the construction of the proposed project concurrently with the construction of adjacent and nearby cumulative projects, if it were to occur, would result in a cumulatively considerable contribution to construction noise impacts in the vicinity of the project. Therefore, the cumulative impact would be significant and unavoidable.

Because vibration impacts are assessed based on instantaneous peak levels (PPV), worst-case groundborne vibration levels from construction are generally determined by whichever individual piece of equipment generates the highest vibration levels. As a result, the vibration from multiple construction sites, even if the sites are near each other, does not generally combine to raise the maximum PPV, and the cumulative effect is no more severe than the effect from the largest individual contribution. This fact, coupled with the very low PPV predicted for the proposed project (ranging from below barely perceptible to barely perceptible at the closest receivers), means that the project would not contribute to any cumulatively considerable groundborne vibration impacts and the cumulative impact would be less than significant.

As decommissioning activities would result in similar noise and vibration levels identified for the construction of the proposed project, cumulative impacts during decommissioning activities would be significant and unavoidable for cumulative noise impacts and less than significant for vibration impact.

The closest cumulative projects in the vicinity of the noise- and vibration-sensitive receivers considered in this analysis are also solar projects that would likely include either the same or similar operational stationary noise sources (e.g., solar panel axis trackers, substation transformers, PCS). However, none of these cumulative solar projects would have a BESS component, which is the predominant stationary noise source associated with the proposed project's operations. Aside from the BESS, the noise levels generated by other stationary noise sources that are generally associated with solar projects that operate throughout both daytime and nighttime hours (e.g., transformers, PCS, corona discharge) are all relatively low and would typically attenuate to levels below the applicable County noise standards at the solar project property line. Additionally, the proposed project and the other cumulative solar projects would generate negligible traffic in the project area. As such, the proposed project would not result in a cumulatively considerable contribution to operational noise impacts in the vicinity of the project.

Noise and vibration impacts are highly localized. Therefore, the project would not have any measurable noise effect cumulatively with other solar development activity in Kern County. Overall, when considered with other past, present, and reasonably foreseeable future projects, the project would not result in a cumulatively considerable contribution to operational noise impacts.

Mitigation Measures

Kern County

Implementation of Mitigation Measures MM 4.12-1 through MM 4.12-4 would be required.

State Lands Commission

Implementation of Mitigation Measures MM 4.12-1 through MM 4.12-4 would be required.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measures MM 4.12-1 through MM 4.12-3, temporary construction cumulative impacts would be considered significant and unavoidable. With implementation of Mitigation Measure MM 4.12-4, cumulative impacts related to groundborne vibration and operational noise would be less than significant.

State Lands Commission

With implementation of Mitigation Measures MM 4.12-1 through MM 4.12-3, temporary construction cumulative impacts would be considered significant and unavoidable. With implementation of Mitigation Measure MM 4.12-4, cumulative impacts related to groundborne vibration and operational noise would be less than significant.

4.13.1 Introduction

This section of the EIR describes the affected environment and regulatory setting pertaining to population and housing at the project site and provides an overview of current population estimates, projected population growth, current housing, and the regulatory setting.

Information in this section is based on, but is not limited to, data from the Kern Council of Governments (Kern COG), the Kern County General Plan, the California Department of Finance (DOF), and the United States Census Bureau.

4.13.2 Environmental Setting

Population

With an area of 8,202 square miles, Kern County is the third largest county in California. The project site is located generally west of the unincorporated community of Willow Springs in southcentral Kern County, and is generally bound by Avenue of the Stars to the south, the intersection of 125th Street and Champagne Avenue to the north, 135th Street West to the west and 105th Street West to the east. A portion of the project site is located in the Willow Springs Specific Plan area, which covers approximately 50,560 acres.

According to the DOF, the population in Kern County, including incorporated areas, was estimated to be 916,464 persons as of January 1, 2019 (DOF, 2019). In 2018 the population was approximately 906,563, which equates to a one-year increase of approximately 9,901 residents, or a 1.09 percent increase (DOF, 2018). As of January 1, 2019, approximately 318,006 persons (or approximately 34.7 percent) resided within the unincorporated area of Kern County (DOF, 2019). The 2019 population within the unincorporated area of Kern County represents an increase of 2,531 residents, over the 2018 population of 315,475 (DOF, 2018). According to the DOF's projections, the County's population is anticipated to increase to 996,506 persons by the year 2025 and 1,214,656 persons in 2040 (DOF, 2018).

Existing and Projected Housing

Kern County's housing supply totaled 290,706 dwelling units in 2014 and 299,674 dwelling units in 2019. This represents an increase in housing supply of approximately 3 percent (8,968 units). The residential vacancy rate, a translation of the number of unoccupied housing units on the market, is a good indicator of the balance between housing supply and demand in the community. Kern County's vacancy rate is approximately 10.7 percent as of January 1, 2019. The average number of persons per household in the County is 3.95 (DOF, 2019). The DOF estimates that 114,973 dwelling units were located within the unincorporated area of Kern County as of January 1, 2019. These units represent approximately 38.3 percent of the total number of dwelling units within Kern County. The average number of persons per

household in the unincorporated area of Kern County was 2.74. Approximately 14.5 percent of the dwelling units within the area were vacant.

Employment

As of March 2019, Kern County had a labor force of 388,700 persons (Employment Development Department [EDD] 2019a). An estimated 39,300 people (approximately 10.1 percent) of the labor force was unemployed. In 2012, Kern County had a labor force of 391,900 persons and approximately 51,500 persons (approximately 13.1 percent) of the labor force were unemployed (EDD 2019a). The unemployment rate as of March 2019 is lower than the estimate seven years ago. Kern County's current unemployment rate is higher than California's rate (4.6 percent) and higher than the national rate (3.8 percent) for April 2019 (USDOL 2019). The predominant industries for Kern County for employment growth were not available, but information for the Bakersfield metropolitan statistical area (MSA) is. Within this area software developers, database administrators, web developers, personal care aides and helpers, brick masons and tile setters have the highest degree of job growth. In 2017 the government industry accounted for approximately 21.1 percent of Kern County's employment as of April 2019 (EDD 2019c).

4.13.3 Regulatory Setting

State

California Housing Element Law

California state law requires each city and county to adopt a general plan for future growth containing at least seven mandatory elements, including housing. The housing element, unlike other general plan elements, is required to be updated every five to six years, and is subject to detailed statutory requirements and mandatory review by a state agency, the California Department of Housing and Community Development (HCD, 2019). Housing element law requires local governments to adequately plan to meet their existing and projected housing needs including their share of the regional housing need. The housing element must incorporate policies and identify potential sites that would accommodate the city's/county's share of the regional housing need. The HCD estimates the relative share of California's projected population growth that would occur in each county in the state based on Department of Finance population projections and historic growth trends. The HCD provides the regional housing need to the regional council of governments, who then assigns a share of the regional housing need to each of its cities and counties. The process of assigning shares provides cities and counties the opportunity to comment on the proposed allocations. HCD oversees the process to ensure that the council of governments distributes its share of the state's projected housing need.

The councils of governments are required to assign regional housing shares to the cities and counties within their region on a similar five-year schedule. At the beginning of each cycle, HCD provides population projections to the council of governments, who then allocate shares to their cities and counties. The shares of the regional need are allocated before the end of the cycle so that the cities and counties can amend their housing elements by the deadline.

Local

Kern County General Plan

The Kern County General Plan is a policy document with planned land use maps and related information designed to provide long-range guidance to County officials making decisions affecting development and the resources of the unincorporated Kern County jurisdiction, excluding the Metropolitan Bakersfield planning area. The Kern County General Plan helps to ensure that day-to-day decisions conform to long-range policies designed to protect and further the public interest related to the County's growth and development. The Kern County General Plan was approved on June 15, 2004, and most recently updated on September 22, 2009. The policies, goals, and implementation measures in the General Plan for population and housing applicable to the proposed project are provided below. As stated in Chapter 2, *Introduction*, 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

1.6 Residential

Goals

- Goal 1: Guide the development of new residential uses within the County so as to ensure that the supply of land designated for residential use is extensive enough to meet anticipated demand.
- Goal 2: Ensure the provision of safe and amenable living environments and the promotion of efficient and economical use of land.
- Goal 3: Discourage scattered urban density development within Kern County that is not supported by adequate infrastructure.
- Goal 4: Promote higher-density residential development within the County of Kern in areas with adequate public services and infrastructure.
- Goal 7: Minimize land use conflicts between residential and resource, commercial, or industrial land uses.

Policies

- Policy 2: The County will encourage the creation of residential developments as provided for in the Cluster Combining District of the Zoning Ordinance as a means of preserving open space.
- Policy 3: Owners of individual legal residentially zoned lots of record will, in any event, retain the right to develop a housing unit structure regardless of the General Plan designation, provided County development ordinance criteria are met.
- Policy 9: Development in areas without adequate infrastructure or development that places a burden on public services (i.e., fire, sheriff, parks, and libraries) shall be discouraged.

Policy 11: Provide for an orderly outward expansion of new urban development so that it maintains continuity of existing development, allows for the incremental expansion of infrastructure and public service, minimizes impacts in natural environmental resources, and provides high quality environment for residents and businesses.

Implementation Measures

Measure A: Review existing development ordinances and, if necessary, adopt additional standards to ensure that the design and siting of new residential development is compatible with adjacent land uses.

Measure D: All General Plan Amendments, zone changes, conditional use permits, discretionary residential developments of five or more dwelling units, and variations from height limits established by zoning for properties which are located in the Airport Influence Areas or near a military airport shall be reviewed by the Planning Department for compatibility with the Kern County Airport Land Use Compatibility Plan.

Measure G: Discretionary project applicants shall provide documentation of adequate public infrastructure and services which include, but are not limited to:

1. Fire protection.
2. Police protection.
3. Sewage disposal.
4. Water service including quality and quantity.
5. Documentation that water conservation measures have been considered.

Measure I: Discretionary projects located within a Moderate, High, or Extreme Fire Hazard Zone shall abide by building materials and construction requirements set forth by the Kern County Fire Department and Office of Emergency Services.

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.

Policies

Policy 6: The County shall ensure the fair treatment of people of all races, cultures, incomes and age groups with respect to the development, adoption, implementation and enforcement of land use and environmental programs.

Policy 7: In administering land use and environmental programs, the County shall not deny any individual or group the enjoyment of the use of land due to race, sex, color, religion, ethnicity, national origin, ancestry, lawful occupation or age.

Policy 8: The County shall ensure that new industrial uses and activities are sited to avoid or minimize significant hazards to human health and safety in a manner that avoids over concentrating such uses in proximity to schools and residents.

Implementation Measure

Measure A: The Kern Council of Governments (COG) will monitor population growth and its subsequent development effects to identify the distribution of population increases and the capabilities of governmental and public agencies to provide new development with adequate services and facilities in a fiscally acceptable manner.

Kern County General Plan, Housing Element 2015–2023

The Kern County Housing Element (Kern County Planning Department, 2016) covers only the unincorporated portions of Kern County. The housing element is one of the seven mandated elements of the local general plan. Housing element law, enacted in 1969, mandates that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community. The law acknowledges that, in order for the private market to adequately address housing needs and demand, local governments must adopt land use plans and regulatory systems that provide opportunities for, and do not unduly constrain, housing development. As a result, housing policy in the state rests largely upon the effective implementation of local general plans and, in particular, local housing elements. Housing element law also requires the Department of Housing and Community Development (HCD) to review local housing elements for compliance with State law and to report its written findings to the local government. State law requires the Kern County Housing Element be updated regularly; the current 2015–2023 Housing Element Update was adopted by the Kern County Board of Supervisors on April 16, 2016, and certified by the State.

Willow Springs Specific Plan

The Willow Springs Specific Plan defines the planning requirements of a designated area within the Kern County General Plan, in order to ensure orderly development of the area. The WSSP area encompasses approximately 50,560 acres within the County, and includes the proposed project boundary. It consists primarily of desert land uses, which range from agricultural, mineral extractions, and open space land uses to a variety of urbanized land uses. The Willow Springs Specific Plan contains performance standards to supplement the zoning and land use map contained in the Kern County General Plan which specifies land use entitlements, as well as standards to guide the Specific Plan's implementation and to assist the legislative body in making decisions concerning issues in the community. The Willow Springs Specific Plan's goals, policies and standards are compatible with those outlined in the Kern County General Plan, but are tailored to the particular needs of the Willow Springs planning area (Kern County Planning Department, 1992). The policies, goals, and implementation measures in the Willow Springs Specific Plan for population and housing applicable to the proposed project are provided below.

Residential

Goal

Goal 1: To promote the efficient and economical use of residential land to ensure that new urban densities are provided with adequate urban infrastructure and are serviced by an expanded Rosamond Community Services District or other special district.

Policies

Policy 3: Encourage the maintenance of natural vegetation until actual construction begins.

Housing Element

Goal

Goal 1: To promote an adequate supply of housing, in a range of types and prices.

Policies

Policy 2: The policies of the Kern County Housing Element are incorporated by reference.

Policy 3: Use of density bonus provisions within the Kern County General Plan, Kern County Zoning Ordinance, and the California Government Code will be promoted as a means of providing new housing to a variety of income levels.

Kern Council of Governments

Kern COG is an association of city and county governments created to address regional transportation issues while protecting the integrity and autonomy of each jurisdiction. Its member agencies include the County and the 11 incorporated cities within Kern County. Under California Housing Element Law, Kern COG is the regional council of governments responsible for allocating the regional housing need to the County. Kern COG adopted a Regional Housing Needs Allocation Plan (RHNA) in June 2014 that establishes housing production goals for each jurisdiction within the region for the period between 2013 and 2023. Future housing needs refer to the projected amount of housing a community is required to plan for during a specified planning period. California's Housing and Community Development Department provides each regional council of governments its share of the statewide housing need. In turn, all councils of governments are required by State law to determine the portion allocated to each jurisdiction within the region. This allocation process is known as the RHNA in the Kern COG region. The RHNA determines housing needs with a special emphasis on ensuring adequate housing for persons in the very low, low, and moderate income ranges. This assessment allows communities to anticipate growth so that they can grow in a way that enhances quality of life; improves access to jobs, transportation, and housing; and does not adversely affect the environment. Kern COG has determined the total number of units needed in the County by 2023 (the 11-year projection period) is 67,675. For Unincorporated County, the number of units is 21,583, or 31.8 percent of the County total, by 2023.

4.13.4 Impacts and Mitigation Measures

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

Methodology

The potential impacts related to population growth associated with the proposed project were evaluated on a qualitative basis. The evaluation of the impacts of the proposed project is based on professional judgment, the significance criteria established by CEQA and the County, and an analysis of the Kern County General Plan and Specific Plans goals and policies related to population growth.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist, as established in Appendix G of the CEQA *Guidelines*, state that a project would have a significant impact on population and housing if it would:

Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

Displace substantial numbers of existing people or housing, necessitating that construction of replacement housing elsewhere.

Project Impacts

Impact 4.13-1: The project would induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

Although the proposed project would provide new employment consistent with the adopted Kern County General Plan goals, plans, and policies, long-term employment opportunities would be minimal. Onsite workforce is expected to average 220 workers per day with a peak of up to 495 workers, which would be a minimal increase in employment over the 10- to 14-month construction period, given the project area's existing population. Construction workers are expected to travel to the site from various 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 community of Rosamond or Tehachapi. Therefore, the project would not directly or indirectly induce the development of any new housing or businesses.

Operation of the proposed project would require up to 12 full-time and or part-time staff. Given the scope of the existing population and available housing in the area, this increase is not considered significant. Typical established local thresholds of significance for housing and population growth pursuant to the CEQA *Guidelines*, Section 15064.7, include effects that would induce substantial growth or concentration of a population beyond County projections, alter the location, distribution, density, or growth rate of the population beyond that projected in the General Plan Housing Element, result in a substantial increase in demand for additional housing, or create a development that significantly reduces the ability of the County to meet housing objectives set forth in the General Plan Housing Element. The effects of the project in relation to these local thresholds are minimal. Although the project would produce additional electricity, it is intended to meet the demand for energy that is already projected based on growth in communities around California. While the project's electricity would replace electricity generated by fossil fuels, thereby contributing to California's renewable energy goals, the production of additional electricity may indirectly be growth inducing; however, additional energy availability alone would not drive population growth. Additional factors that would be necessary for population growth in Kern County would include access to public utilities, housing, sufficient transportation capacity, and employment opportunities. The production of additional energy would not automatically cause an increase in jobs. Further, local governments can minimize the potential growth-inducing effects of proposed projects through regulatory authority in relation to land use. In addition, the project does not propose the extension of roads or the development of other infrastructures, such as utilities, beyond the project site that would indirectly induce population growth. Therefore, impacts would be less than significant.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Impact 4.13-2: The project would displace substantial numbers of existing people or housing, necessitating that construction of replacement housing elsewhere.

The project site consists of largely undeveloped lands and is primarily vacant surrounded by solar developments to the immediate north and west and further south. Residential dwellings are scattered around the perimeter of the project site and are located at various distances from the project boundary. There are

no residences on the project site. While there are scattered rural residences in the project vicinity, they are not a part of the project site; thus, no people or housing would be displaced. Therefore, the proposed project would not displace substantial numbers of existing people or housing, which would necessitate the construction of replacement housing elsewhere and this impact is considered less-than-significant.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or substantially increase other environmental impacts. Cumulative impacts for a project are considered significant if the incremental effects of the individual projects are considerable when viewed in connection with the effects of past projects, and the effects of other projects located in the vicinity of the project site.

As discussed above, as no new residences would be constructed, the proposed project would not increase population. It is anticipated that a substantial amount of the required labor force in the surrounding areas would be used for project construction. The proposed project would not directly increase population or the housing stock. Because the proposed project would not directly increase population and there is a high unemployment rate, the proposed project is not anticipated to result in a direct or indirect impact on population and housing, nor is the proposed project anticipated to be growth inducing. Therefore, the proposed project, in conjunction with the current and reasonably foreseeable projects discussed in Chapter 3, *Project Description*, would not lead to population growth. The employment opportunities provided by the proposed project and other reasonably foreseeable projects would help to provide a balance with the current and projected labor force associated with future conditions. Therefore, cumulative impacts would be less than significant.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

4.14.1 Introduction

This section of the EIR describes the affected environment and regulatory setting pertaining to public services, which include fire and law enforcement protection. This section also addresses the potential impacts on public services that would result from implementation of the project and the mitigation measures to reduce these potential impacts. Information for this section was taken from numerous sources, including websites, and service agency plans.

4.14.2 Environmental Setting

Fire Protection

The Kern County Fire Department (KCFD) provides primary fire protection services, fire prevention, emergency medical, and rescue services to more than 800,000 people in unincorporated areas of Kern County and nine incorporated cities (i.e., the cities of Arvin, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco.). KCFD operates 47 full-time fire stations within 7 battalions and is equipped with 55 fire engines, 4 ladder trucks, 41 patrol vehicles, 25 command vehicles, 21 reserve engines and patrols, 6 dozers, 2 helicopters, 2 hazardous material response teams, and other ancillary vehicles and equipment. KCFD is staffed with 625 permanent employees, which includes 546 uniformed firefighters (KCFD, 2019a). KCFD has experienced several budget and staffing cuts in recent years and was operating on a 7.5-million-dollar deficit going into the 2018–2019 fiscal year (Barnwell, 2018).

The project site is located generally west of the unincorporated community of Willow Springs in southcentral Kern County, and is generally bound by Avenue of the Stars to the south, the intersection of 125th Street and Champagne Avenue to the north, 135th Street West to the west and 105th Street West to the east. 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 and covers 951,600 acres of which 351,276 acres is State Responsibility Area (SRA) land area (KCFD, 2018), 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 4.18-2, Fire Hazard Severity Zones for State Responsibility Areas**, in Section 4.18, *Wildfires*, of this EIR, the project site is not within a SRA; however, the area to the north of the project site 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, and as shown in **Figure 4.18-1, Fire Hazard Severity Zones for Local Responsibility Areas**, in Section 4.18, *Wildfires*, of this EIR, the project site is within a LRA Moderate fire hazard severity zone (CAL FIRE, 2007b).

Fire Station No. 15 (Rosamond), located at 3219 35th Street W, is approximately 9.4 miles to the southeast 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. 14 (Mojave), located at 1953 Highway 58, 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 4.14-1, *List of Nearby Fire Stations***. In remote County areas like the project site, the average response time is approximately 21 minutes (CPSM, 2017).

TABLE 4.14-1: LIST OF NEARBY FIRE STATIONS

Agency	Facility	Address	Approximate Distance from Project Site
KCFD	Fire Station No. 15	3219 35th Street W Rosamond, CA 93560	9.4 miles southeast of the project site
KCFD	Fire Station No. 14	1953 Highway 58 Mojave, CA 93501	13.3 miles northeast of the project site
KCFD	Fire Station No. 12	800 South Curry Street Tehachapi, CA 93561	15.1 miles northwest of project site
KCFD	Fire Station No. 13	21415 Reeves Street Tehachapi, CA 93561	16.3 miles northwest of project site

Kern County has 14 mutual-aid agreements with neighboring fire suppression organizations to further strengthen the emergency services (KCFD, 2018). The KFCS 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 174 fire stations throughout Los Angeles County. The LACFD is divided into 22 battalions with over 4,000 personnel (LACFD, 2017). The nearest LACFD fire station to the project site is Station No. 112, located at 8812 W. Avenue E-8, Lancaster, approximately 12 miles southeast of the project site. As previously mentioned, the project site is within an area of moderate fire hazard, as determined by the County (KCFD, 2009) and California Department of Forestry and Fire Protection (CAL FIRE) (CAL FIRE, 2007a).

Kern County applies and utilizes the National Fire Code set forth by the National Fire Protection Association, the California Fire Code, the California Building Code, and the Kern County Ordinance Code to regulate fire safety.

The Kern County Emergency Medical Services Division (EMS) is the lead agency for the emergency medical services system in Kern County and is responsible for coordinating all system participants in the County, which include the public, fire departments, ambulance companies, other emergency service providers, hospitals, and Emergency Medical Technician (EMT) training programs throughout the County. The EMS includes a system of services organized to provide rapid response to serious medical emergencies, including immediate medical care and patient transport to a hospital setting. EMS covers day to day emergencies, disaster medical response planning and preparation, and preventative health care. The department also provides certification and re-certification for EMTs, paramedics, specialized nurses (MICN), and specialized dispatchers (EMD) (Kern County Public Health Services Department, 2018). The nearest hospitals are the Tehachapi Hospital, located at 1100 Magellan Drive, Tehachapi, CA 93561 in the City of Tehachapi, approximately 16.7 miles to the northwest and the Antelope Valley Hospital, located at 1600 W Avenue J, in the City of Lancaster, approximately 19.3 miles to the southeast.

An inventory of fire facilities in the project area is provided below in Table 4.14-1, *List of Nearby Fire Stations*. The table identifies each type of facility, the name and address of the facility, and the approximate distance from the project site.

Law Enforcement Protection

Kern County Sheriff's Department

The Kern County Sheriff's Office (KCSO) provides basic law enforcement services in the unincorporated areas of the County, which includes the project area. The KCSO enforces local, State, and federal laws and is responsible for crime prevention, field patrol (ground and air), crime investigation, the apprehension of offenders, regulation of noncriminal activity, and related support services such as, patrolling off-highway vehicle recreation areas 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 is currently staffed with 1,202 sworn and civilian employees, 567 deputy sheriffs, 338 detention deputy positions, and 297 professional support staff (KCSO, 2019a). The headquarters for the KCSO is located at 1350 Norris Road in the City of Bakersfield. The KCSO consists of 14 substations that provide patrol services (KCSO, 2019b). The nearest substation that would provide service to the project site is the Rosamond Substation located approximately 9.5 miles southeast of the project site at 3179 35th Street W in the community of Rosamond. This substation provides services to approximately 20,000 residents in the southeastern most end of Kern County (KCSO, 2019c). Other substations in proximity to the project site include Tehachapi Substation and Mojave Substation. Information on three closest substations to the project site is included in **Table 4.14-2, List of Nearby Sheriff Substations**.

TABLE 4.14-2: LIST OF NEARBY SHERIFF SUBSTATIONS

Agency	Facility	Address	Approximate Distance from Project Site
KCSO	Rosamond Substation	3179 35th Street W Rosamond, CA 93560	9.5 miles southeast of the project site
KCSO	Mojave Substation	1771 State Highway 58 Mojave, CA 93501	13.3 miles northeast of the project site
KCSO	Tehachapi Substation	22209 Old Town Road Tehachapi, CA 93581	17.4 miles northwest 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.

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 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, Mohave, 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, 2019d).

California Highway Patrol

As a major statewide law enforcement agency, the California Highway Patrol (CHP) is responsible for managing and regulating traffic for the safe, lawful, and efficient use of California highways. The CHP patrols State highways and all County roadways, enforces traffic regulations, responds to traffic accidents, and provides service and assistance to disabled vehicles. The CHP has a mutual aid agreement with KCSO.

The CHP is divided into eight divisions that provide services in areas of California (CHP, 2019a). The project site is within the jurisdiction of the Inland Division, which includes the most intensely-congested roads in the nation at the intersections of Interstates 10, 15, 215, and Highways 60, 71, 91, and 210 (CHP, 2019b). The nearest Inland Division office to the project site is located at 1313 Highway 58, in the community of Mojave, approximately 13.7 miles northeast of the project site.

Schools/Parks/Other Facilities

The Kern County Parks and Recreation Department manages 8 regional parks, 25 public buildings, and 40 neighborhood parks. There are no recreational facilities currently serving the project, nor are there existing parks located within 1-mile of the proposed project.

The Kern County Library system consists of 24 branches and 2 bookmobiles throughout Kern County, with the main branch library (the Beale Memorial Library) located in Bakersfield. Materials for use at county branches include books, government documents, computers, CDs, and other informational media. The Kern County library system maintains a collection of 1.15 million books, audiovisual items, periodicals, and other informational sources. The closest libraries to the proposed project are the Rosamond Branch Library, located approximately 7.6 miles southeast of the project site at 3611 Rosamond Boulevard, Rosamond, and the Mojave Branch Library, located approximately 13 miles northeast of the project site at 15555 O Street, Mojave.

The project site is located within the boundaries of the Southern Kern Unified School District, which operates seven schools. The nearest school to the project site is Tropico Middle School, located approximately 5.8 miles southeast in the community of Rosamond.

4.14.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

California Fire Code

The 2016 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operation. Chapter 6 (Building Services and Systems) of the Code focuses on building systems and services as they relate to potential safety hazards and when and how they should be installed. Building services and systems are addressed include emergency and standby power systems, electrical equipment, wiring and hazards, and stationary storage battery systems. Chapter 33 (Fire Safety During Construction and Demolition) of the Code outlines general fire safety precautions to maintain required levels of fire protection, limit fire spread, establish the appropriate operation of equipment and promote prompt response to fire emergencies. Features regulated include fire protection systems, fire fighter access to the site and building, means of egress, hazardous materials storage and use and temporary heating equipment and other ignition sources.

California Department of Forestry and Fire Protection

Under Title 14 of the California Code of Regulations (CCR), 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.

CAL FIRE adopted Fire Hazard Severity Zone maps for State Responsibility Areas and Local Responsibility Areas (LRAs) in 2007. Fire Hazard is a way to measure the physical fire behavior so that people can predict the damage a fire is likely to cause. Fire hazard measurement includes the speed at which a wildfire moves, the amount of heat the fire produces, and most importantly, the burning fire brands that the fire sends ahead of the flaming front. The project site is not located within a SRA but it is located in an area of moderate fire hazard and within an unincorporated LRA (CAL FIRE, 2007a/2007b).

In addition to wildland fires, CAL FIRE's planning efforts involve responding to other types of emergencies, including medical aids, hazardous material spills, swiftwater rescues, search and rescue

missions, civil disturbances, train wrecks, floods, and earthquakes. Through contracts with local government, CAL FIRE provides emergency services in 36 of California's 58 counties (CAL FIRE, 2019).

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for public services 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, Conservation and Open Space 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 4: The provision of parks and recreational facilities of varying size, function, and location to serve County residents will be encouraged. Special attention will be directed to providing linear parks along creeks, rivers, and streambeds in urban areas.
- Policy 5: Seek to provide recreational facilities where deficiencies have been identified.
- 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 B: Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the site of approval of the Final Map. This implementation can be effectuated by the formation of a County work group.
- Measure J: Ensure that the Superintendent of Schools and the respective school districts are informed of development proposals and are afforded the opportunity of evaluating their potential effect on the physical capacity of school facilities.
- Measure L: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.

1.10 General Provisions

Goal

- Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving viable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

1.10.1 Public Services and Facilities

Policies

- Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure that it generates and upon which it is dependent.
- Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.
- Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to ensure the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Chapter 4. Safety Element

4.6 Wildland and Urban Fire

Policies

- Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.
- Policy 3: The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.
- Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.
- Policy 6: All discretionary projects shall comply with the adopted fire code and the requirements of the fire department.

Implementation Measure

- Measure A: Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.

Willow Springs Specific Plan

The southern portion of the project site is subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in April 2008 and contains goals, policies, and standards that are compatible with those in the Kern County General Plan, but are unique to the specific needs of the Willow Springs Area. The public services-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County Department of Planning and Development Services 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included below.

Public Facilities

Goals

- Goal 4: To recognize early on the need for the Southern Kern Unified School District to advise the County of the need to establish and/or expand educational facilities in the area.
- Goal 5: The establishment of parks and recreational facilities of varying size, function, and location to serve Willow Springs residents.

Policies

- Policy 2: In evaluating a development application, Kern County will consider both its physical and fiscal impact on the local school district and other public facilities. If it is found that the district or facilities involved will, as a result, require additional facilities or incur costs requiring additional local revenues, the development project will be required as a condition of approval to contribute funds to the district for the costs directly attributable to the project.
- Policy 5: New development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Mitigation/Implementation Measures

- Measure 10: New development shall contribute its pro rata share for circulation improvements, school impact fees, park land dedications/fees, and possible biota impact fees. As additional impact fees are adopted, they shall be incorporated into the Specific Plan text.
- Measure 11: The school district, along with the developer, shall provide Kern County with an alternative funding method, should an alternative be submitted with an impending development.
- Measure 12: The school district, along with the developer, shall provide Kern County with an alternative funding method, should an alternative be submitted with an impending development.
- Measure 25: The applicants are subject to school assessment fees pursuant to AB 2926.

Kern County Fire Department Wildland Fire Management Plan

The KCFD Wildland Fire Management Plan adopted in 2009 assesses the wildland fire situation throughout the SRA within the County. The Plan includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire

problem. The plan systematically assesses the existing levels of wildland protection services and identifies high-risk and high-value areas, which are potential locations for costly and damaging wildfires. The plan also ranks the areas in terms of priority needs and prescribes what can be done to reduce future costs and losses. The project site is located within a moderate fire hazard severity zone (KCFD, 2009).

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 and their effects in Kern County. The plan includes specific recommendations for actions that can mitigate future disaster losses, as well as a review of the County's current capabilities to reduce hazards impacts. This multi-jurisdictional plan includes Kern County, and the incorporated municipalities Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. The plan also covers 53 special districts that include school, recreation and park, water, community service and other districts. The plan has been formally adopted by each participating entity and is required to be updated a minimum of every five years (KCFD, 2018).

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, conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of adequate means of egress, and providing for the issuance of permits and collection of fees therefore (Kern County, 2017).

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan, adopted in March of 2018 is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2017, included completion of a number of fuel reduction projects, hosted three wildfire safety expos in battalions 1, 5, and 7, and the award of three SRA fuel reduction grants for a total of \$500,000. The plan gives an overview of KCFD Battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 1 (Tehachapi) 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 Kern County Fire Department Fire Prevention Division adopted Standard No. 503-507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019. The standard is implemented in accordance with the 2016 CFC and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. The standard outlines installation requirements for photovoltaic ground-mounted and roof-mounted solar panels. The proposed project would mount systems for the modules on steel support posts that would be pile driven into the ground and would therefore comply with the ground mounted requirements of this fire prevention standard. Ground mounted solar panel requirements of this standard include water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD, 2019c).

4.14.4 Impacts and Mitigation Measures

Methodology

The methodology used to evaluate potential public services impacts includes the following: (1) evaluation of existing fire and law enforcement services and personnel for the fire and law enforcement stations serving the project site; (2) determination of whether the existing fire and law enforcement services and personnel are capable of servicing the proposed project, in addition to the existing population and building stock; and (3) determining whether the proposed project's contribution to the future service population would cause fire or sheriff station(s) to operate beyond service capacity. The determination of the significance of the proposed project on fire protection and emergency medical and law enforcement protection services considers the level of services required by the proposed project and the ability of KCFD and KCSO to provide this level of service and maintain the regular level of service provided throughout the County, which in turn could require the construction of new or expansion of existing facilities. The methodology for this analysis included a review of published information pertaining to KCFD and KCSO. 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 would have a significant adverse effect on public services:

A project would have a significant impact 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

Project Impacts

Impact 4.14-1: The project would result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services or law enforcement protection services.

Fire Protection

Construction

The average and peak number of construction workers to be onsite would be approximately 220 and 495, respectively. The presence of construction workers at the project site would be temporary during the construction period spanning a 10 to 14-month period. The project would include development of a combined 128 megawatts (MW) (alternating current or “AC”) of renewable electrical energy and up to 60 MW of a Battery Storage System (BESS) on approximately 2,445 acres (2,285 acres of privately-owned and publicly owned land and 160 acres owned by the California State Lands Commission) in unincorporated portions of Kern County, California. As determined by the County, and as shown in **Figure 4.18-1, Fire Hazard Severity Zones for Local Responsibility Areas**, and **Figure 4.18-2, Fire Hazard Severity Zones for State Responsibility Areas**, in Section 4.18, *Wildfires*, of this EIR, the project site is not within an area of high or very high fire hazard (CAL FIRE, 2007a/2007b).

Fire protection requirements are based on the number of residents and workers in the KCFD primary 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 department. As the number of residents and workers increases, so does 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 would not occur.

Service demands as a result of personnel onsite could occur during construction of the proposed project. Typically, service demands per employee are less than service demands per resident. Nevertheless, the addition of construction personnel on the project site would result in an increase in demand for fire protection services. While this would be an increase above existing levels, the presence of construction workers on the site would be temporary, as the construction period for the proposed project would last approximately 10 to 14 months.

While construction of the proposed project would increase the number of people on the project site, the increase would be temporary and would therefore not substantially increase the service demand for fire protection services in Kern County. In addition, the project site is not located within an area of high or very high fire hazard, as determined by the County (KCFD, 2009) or CAL FIRE (CAL FIRE, 2007a/2007b) and

would be required to implement a fire safety plan, as stated in Mitigation Measures MM 4.14-1, below. As required by Mitigation Measure MM 4.14-1, the project proponent would prepare and implement a fire safety plan that contains notification procedures and emergency fire precautions consistent with the 2016 California Fire Code and Kern County Fire Code. The plan would be for use during the 10 to 14-month construction period as well as operations and would include emergency fire precautions for vehicles and equipment as well as implement fire rules and trainings so temporary employees are equipped to handle fire threats. Given the temporary nature of the project's construction phase and implementation of MM 4.14-1, impacts to fire protection services and facilities during project construction would be less than significant.

Operation

Once constructed, the proposed project would provide for up to 8 to 12 part-time and/or full time staff at the O&M facility for maintenance and panel washing. Although unlikely, maintenance activities could introduce fire risks to the project site from maintenance vehicles. However, all maintenance activities would be required to comply with the fire safety plan implemented per Mitigation Measure MM 4.14-1, which would help reduce fire risks onsite. In addition, all project facilities would have been designed and constructed in accordance with the 2016 California Fire Code and Kern County Fire Code such that fire hazards are reduced and/or avoided.

The proposed project would also be required to implement Mitigation Measure MM 4.14-2, which would require the project operator to pay Kern County mitigation fees to compensate for any permanent impacts to fire protection services and facilities resulting from the operation of the proposed project. Given the minimal personnel at the O&M facility and implementation of Mitigation Measures MM 4.14-1 and MM 4.14-2, any potential operational impacts on fire protection services would be reduced. Therefore, the proposed project would not result in the need for new or physically altered KCFD facilities and impacts would be less than significant.

Law Enforcement Protection

Construction

As described above in Section 4.14.2, *Environmental Setting*, the KCSO provides primary law enforcement protection services for the project site and surrounding areas. The Rosamond Substation, located approximately 9.5 miles southeast of the project site and would provide primary law enforcement services to the project site. Similar to fire protection services, the need for law enforcement protection services would increase during construction of the proposed project.

The project site is located in a relatively remote location surrounded by undeveloped land and sparse rural residential development and is unlikely to attract attention that would make project facilities susceptible to crime. Therefore, a large increase for KCSO services is not expected. However, construction activities may temporarily increase traffic volumes along SR-58 and SR-14 during the 10 to 14-month construction period. The added traffic associated with workers commuting to the project site, haul routes, deliveries, and other project-related traffic would be temporary and, therefore, would not have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways.

Additionally, fences would be installed around the perimeter of each site, substation, and other areas requiring controlled access, for safety and security purposes. All fence installation requirements would be

evaluated, and the best-fit scenario would be incorporated in the project site based on the County's final determination. The fencing would remain for the life of the project.

While construction of the proposed project would increase the number of people on the project site, the increase would be temporary and negligible and, thus, would not substantially increase the service demand for law enforcement protection services in Kern County. Therefore, new or physically altered KCSO or CHP facilities would not be required to accommodate the limited increase in needs from the project during construction and impacts to law enforcement services are less than significant.

Operation

Project operation could attract vandals or present other security risks. As described above, the project site is located in a relatively remote location in a rural community, and is thus unlikely to attract attention that would make project facilities susceptible to crime. Once operational, 8 to 12 employees are expected to be on-site to manage the facility. Security fencing around the perimeter of each site and other areas requiring controlled access, motion-sensitive security cameras, and controlled access gates, would minimize the need for sheriff surveillance and response during project operation. Furthermore, all facility personnel, contractors, agency personnel, and visitors would be logged in and out of the facility at the main office located at the proposed O&M building during normal business hours. Therefore, new or physically altered KCSO facilities would not be required to accommodate the proposed project. The additional volume of vehicles associated with workers commuting to the project site during routine maintenance would be minor and is not expected to adversely affect traffic (see Section 4.15, *Traffic and Transportation*, for more details). Therefore, impacts to the CHP patrol are not anticipated. In addition, as part of Mitigation Measure MM 4.14-2, the project operator would be required to pay mitigation impact fees to offset potential impacts on sheriff protection services. Impacts would be less than significant.

Schools/Parks/Other Facilities

During construction, construction workers would be temporarily present on the project site. There would be a peak workforce of 495 workers; however, the average daily workforce is expected to be 220 construction, supervisory, support, and construction management personnel onsite during the 10 to 14-month construction period. These construction workers would likely come from an existing local and/or regional construction labor force and would not likely relocate their households as a consequence of working on the project. Therefore, the short-term increased employment of construction workers on the project site would not result in a notable increase in the residential population of the area surrounding the project site. Accordingly, there would not be a corresponding demand or use of the local schools, parks, or public facilities. 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.

During operation, the proposed project could require up to 8 to 12 part-time and/or full time staff at the O&M facility. This staff would likely come from an existing local and/or regional labor force and would not likely relocate their households as a consequence of working on the project. Therefore, the increase of onsite staff at the project site would not result in a notable increase in the residential population of the area

surrounding the project site. Accordingly, there would not be a corresponding demand or use of the local schools, parks, or public facilities, and there would be no impact.

Mitigation Measures

Kern County

MM 4.14-1: Prior to the issuance of grading or building permits, the project proponent/operator shall develop and implement a Fire Safety Plan for use during construction, operation and decommissioning.

The project proponent/operator shall submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval. A copy of the approved Fire Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department. The Fire Safety Plan shall contain notification procedures and emergency fire precautions including, but not limited to the following:

1. All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.
2. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory-installed (type) muffler in good condition.
3. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees.
4. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials.
5. 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.
6. The project proponent/operator shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel.

MM 4.14-2: The project proponent/operator shall implement the following mitigation steps at the project site:

1. For facility operation, the project proponent/operator shall pay for impacts on countywide public protection, sheriff's patrol and investigative services, and fire services at a rate of \$29.59 per 1,000 square feet of panel-covered ground for the facility operation and related onsite structures for the entire covered area of the project. The total amount shall be divided by 20 and paid on a yearly basis. Any operations that continues past 20 years will pay the same yearly fee. If completed in phases, the annual amount shall be based on the square footage of ground covered by April 30 of each year. The amount shall be paid to the Kern County Auditor/Controller by April 30 of

each calendar year for each and every year of operation. Copies of payments made shall be submitted to the Kern County Planning and Natural Resources Department.

2. 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 \$1,000 per megawatt per year, then that entity shall pay the taxes plus the amount necessary to equal the equivalent of \$1,000 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.
3. 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.
4. 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.

State Lands Commission

MM 4.14-1: Prior to the issuance of grading or building permits, the project proponent/operator shall develop and implement a Fire Safety Plan for use during construction, operation and decommissioning.

The project proponent/operator shall submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval. A copy of the approved Fire Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department. The Fire Safety Plan shall contain notification procedures and emergency fire precautions including, but not limited to the following:

1. All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.
2. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory-installed (type) muffler in good condition.

3. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees.
4. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials.
5. 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.
6. The project proponent/operator shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel.

MM 4.14-2: The project proponent/operator shall implement the following mitigation steps at the project site:

1. For facility operation, the project proponent/operator shall pay for impacts on countywide public protection, sheriff's patrol and investigative services, and fire services at a rate of \$29.59 per 1,000 square feet of panel-covered ground for the facility operation and related onsite structures for the entire covered area of the project. The total amount shall be divided by 20 and paid on a yearly basis. Any operations that continues past 20 years will pay the same yearly fee. If completed in phases, the annual amount shall be based on the square footage of ground covered by April 30 of each year. The amount shall be paid to the Kern County Auditor/Controller by April 30 of each calendar year for each and every year of operation. Copies of payments made shall be submitted to the Kern County Planning and Natural Resources Department.
2. 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 \$1,000 per megawatt per year, then that entity shall pay the taxes plus the amount necessary to equal the equivalent of \$1,000 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.
3. 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.

4. 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. Level of Significance after Mitigation

Kern County

With the implementation of Mitigation Measures MM 4.14-1 and MM 4.14-2, impacts would be less than significant.

State Lands Commission

With the implementation of Mitigation Measures MM 4.14-1 and MM 4.14-2, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or substantially increase other environmental impacts. Cumulative impacts for a project are considered significant if the incremental effects of the individual projects are considerable when viewed in connection with the effects of past projects, and the effects of other projects located in the vicinity of the project site. The cumulative study area is based on the service area for each of the fire, sheriff and other governmental offices/facilities serving the project site. As discussed above, fire and sheriff service impacts related to the proposed project would be less than significant with mitigation. Mitigation Measure MM 4.14-1 requires implementation of a fire safety plan during project construction and operation that would include notification procedures and emergency fire precautions to help reduce fire risks and the consequential need for fire protection services onsite. Mitigation Measure MM 4.14-2 requires the project proponent to pay applicable fees and taxes to reduce significant impacts to fire or law enforcement protection services resulting from the project. With payment of the required mitigation fee as assessed by the Kern County Planning and Natural Resources Department, any slight contribution the project would have on the need for additional fire or law enforcement protection services, facilities or personnel required would be appropriately funded. Similar to the proposed project, all other past, present, and reasonably foreseeable future projects located within these fire and sheriff service areas were or would be required to pay this mitigation fee, if deemed appropriate by the Kern County Planning and Natural Resources Department.

In addition, as discussed above, given that the proposed project would not increase demand for local schools, parks, or public facilities, there would be no impact. Thus, the project would not cumulatively combine with related projects to have an impact on these facilities. Furthermore, cumulative projects would also be required to undergo environmental review, in compliance with the requirements of CEQA. Should potential impacts to public services be identified, appropriate mitigation would be prescribed that would reduce impacts to less-than-significant levels.

Because the project would not create a significant impact on public services, and the other related projects would also be expected to avoid or mitigate impacts on public services, this project would comply with the goals, policies, and implementation measures of both the Kern County General Plan and the Willow Springs Specific Plan; thus, cumulatively significant impacts are anticipated to be less than significant. Therefore, the project would not create a cumulatively considerable impact related to public services and would have a less than significant cumulative impact.

Mitigation Measures

Kern County

Implement Mitigation Measures MM 4.14-1 and MM 4.14-2.

State Lands Commission

Implement Mitigation Measures MM 4.14-1 and MM 4.14-2.

Level of Significance after Mitigation

Kern County

With the implementation of Mitigation Measures MM 4.14-1 and MM 4.14-2, cumulative impacts would be less than significant.

State Lands Commission

With the implementation of Mitigation Measures MM 4.14-1 and MM 4.14-2, cumulative impacts would be less than significant.

4.15.1 Introduction

This section of the EIR describes the affected environment, regulatory setting, and project impacts for transportation. It also describes mitigation measures that would reduce these impacts, where applicable. The information and analysis in this section is largely based on the Traffic Investigation (Ruettgers & Schuler, 2019), which is provided in Appendix P of this EIR.

4.15.2 Environmental Setting

The project is located on approximately 2,285 acres in the southeastern portion of Kern County, approximately 38 miles southeast of the City of Bakersfield, 13 miles south of the City of Tehachapi, and 1.9 miles northwest of the unincorporated community of Rosamond. The circulation system in the vicinity of the project site is made up of a combination of State and County-jurisdiction facilities. Major components of the system are discussed below and shown in Chapter 3, *Project Description*, **Figure 3-1, Site Vicinity**, of this EIR.

Regional Setting

Major Highways

The project site is located near four major highways that would provide access to the general vicinity of the proposed project during the construction and operation phases. Interstate 5 (I-5) is the largest highway that would provide regional access to the project site from the north and the south directions. State Route 138 (SR-138) intersects with I-5 and State Route 14 (SR-14) and runs south of the project site. SR-14 (Antelope Valley Freeway) connects SR-138 to population centers northeast and southeast of the project site, providing primary access. State Route 58 (SR-58) intersects with I-5 west of Bakersfield and runs east-west, north of the project site.

Interstate 5 is a major, four-lane divided freeway that extends north from the Mexican border to the Canadian border and provides access for goods movement, shipping, and travel. This highway crosses the western portion of Kern County and is designated as an arterial/major highway by the Kern County General Plan Circulation Element. The project site is located approximately 29 miles east of I-5.

State Route 138 is a two-lane highway that runs east-west across the northern part of Los Angeles County, providing regional access from I-5 to SR-14. SR-138 is located approximately 8 miles south of the project site.

State Route 14 is a divided highway that runs parallel to I-5 in the eastern portion of Kern County, providing regional access to the project site (SR-14 is located approximately 9 miles east of the project site). SR-14 connects Santa Clarita (Los Angeles County) and Inyokern (Kern County). SR-14 is a four-lane divided freeway with grade-separated interchanges near the project site at Rosamond Boulevard and Backus Road.

State Route 58 is an east-west divided highway that provides regional access to the project site (SR-58 is located approximately 13-miles north of the project site). SR-58 connects San Luis Obispo County and San Bernardino County. In the project vicinity, SR-58 is a four-lane divided freeway with grade-separated interchanges at East Tehachapi Boulevard and SR-14.

According to the California Department of Transportation (Caltrans) California Scenic Highway Mapping System, there are no Designated State Scenic Highways within Kern County (see Section 4.15.3, *Regulatory Setting*, below for more information on the State Scenic Highway Mapping System. The closest Eligible Scenic Highways are SR-14 (portion north of State Route 58 [SR-58]) and SR-58 (portion east of SR-14), both located approximately 15 miles northeast of the project site (Caltrans, 2017). Prominent views along SR-14 and SR-58 adding to the scenic elements in the landscape for motorists include panoramic views of the open Mojave Desert landscapes and surrounding mountains. According to the Kern County General Plan Circulation Element, a scenic route is any freeway, highway, road, or other public right-of-way, which traverses an area of exceptional scenic quality. The Circulation Element contains goals and policies that discuss designating SR-14 as a scenic highway to protect adjacent viewsheds.

Non-Motorized Transportation

Bicycling is considered an effective alternative mode of transportation that can help to improve air quality, reduce the number of vehicles traveling along existing roads and highways, and reduce energy consumption. There are 67 miles of existing bicycle facilities in the unincorporated portions of Kern County. There are no dedicated bicycle facilities in the immediate vicinity of the project site or along the surrounding roadways.

A portion of the Pacific Crest National Scenic Trail (commonly known as the Pacific Crest Trail or PCT) is located approximately 4.4 miles west of the project site.

Other Transportation Facilities

Public Transportation

Public transportation in Kern County is provided by Kern Transit, which offers 17 fixed routes throughout the County and a dial-a-ride general public transportation service for residents in most communities. Route 100 provides fixed route scheduled bus service between Bakersfield and Lancaster on SR-58 and SR-14, with stops in the communities of Tehachapi, Keene, Mojave, and Rosamond. Route 250 provides fixed route scheduled bus service between California City and Lancaster on SR-14, with stops in the communities of Mojave and Rosamond. No public transit routes pass or stop near the project site.

Railways

The closest railway, the Mohave Subdivision, is operated by the Union Pacific Railroad and is located approximately 10 miles east and 13 miles northeast of the project site.

Airport Facilities

Lloyd's Landing Airport is the nearest private airstrip, located approximately 1 mile to the east of the project site. Lloyd's Landing Airport is a private facility with an approximately 1,370-foot dirt runway. The facility receives no regular scheduled flights and is not publically accessible.

Rosamond Skypark is a privately-owned and operated residential airport that is open for public use, and is located about 7 miles east 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.

General William J. Fox Airfield is a public airfield located about 12 miles southeast of the project site. This airport has a 7,200-foot asphalt runway and serves general aviation aircraft, limited scheduled cargo service, and U.S. Forest Service aircraft. In operation since 1959, the airfield serves an average of 224 flight operations per day.

Mountain Valley Airport is a private airport that allows public access located approximately 13 miles to the north of the project site. The airport has two runways, each 4,890 feet long, and primarily serves general aviation aircraft, with some military flights also using the facility. In operation since 1968, the airport serves an average of 137 flight operations per day.

Mojave Air and Space Port is a public airfield located about 14 miles northeast 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.

Edwards Air Force Base is a military base and airstrip located approximately 25 miles east of the project 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.

Local Setting

Site Access

The primary access route to the project site is from SR-14 by way of Rosamond Boulevard from the east, and then along 140th Street West, 130th Street West, Avenue of the Stars, 105th Street West and or Hamilton Road. Alternatively, vehicles could also use West Avenue A instead of Rosamond Boulevard to access the project site.

Traffic Analysis

Considering the access routes described above, this traffic impact analysis evaluates the following seven study intersections (two signalized, five unsignalized) in the vicinity of the project site, where project traffic would contribute turning vehicles:

1. Tehachapi Willow Springs Road & Hamilton Road (side-street stop controlled)
2. 170th Street W & Rosamond Boulevard (all-way stop controlled)
3. 140th Street W & Rosamond Boulevard (side-street stop controlled)
4. 130th Street W & Rosamond Boulevard (side-street stop controlled)

5. 90th Street W & Rosamond Boulevard (all-way stop controlled)
6. SR-14 Southbound Ramps & Rosamond Boulevard (signal)
7. SR-14 Northbound Ramps & Rosamond Boulevard (signal)

In addition, the following four roadway segments in the vicinity of the project site were evaluated:

1. Tehachapi Willow Springs Road between Hamilton Road and Rosamond Boulevard
2. Rosamond Boulevard between 170th Street W and 130th Street W
3. Rosamond Boulevard between 130th Street W to 90th Street W
4. Rosamond Boulevard between 90th Street W and SR-14

The gen-tie and Southern California Edison (SCE) infrastructure for all four gen-tie options are proposed within or proximate to existing transmission infrastructure and solar facilities. The environmental setting characteristics relating to transportation for the construction, operation, and decommissioning of the gen-tie and SCE infrastructure are substantially similar to the project site.

Existing AM and PM peak hour turning movement volumes were field measured at the study intersections in December 2018. As shown in **Table 4.15-1, Existing Conditions AM and PM Peak Hour Level of Service (LOS)**, **Table 4.15-2, Existing Conditions Roadway Segment Level of Service**, the intersections and roadway segments serving the project area currently operate at LOS A or LOS B during the analyzed time periods based on average intersection delay and roadway volume-to-capacity (v/c) ratios.

TABLE 4.15-1: EXISTING CONDITIONS AM AND PM PEAK HOUR LEVEL OF SERVICE

Study Intersection	AM Peak Hour	PM Peak Hour
1. Tehachapi Willow Springs Road & Hamilton Road	LOS A	LOS A
2. 170th Street W & Rosamond Boulevard	LOS A	LOS A
3. 140th Street W & Rosamond Boulevard	LOS A	LOS A
4. 130th Street W & Rosamond Boulevard	LOS A	LOS A
5. 90th Street W & Rosamond Boulevard	LOS A	LOS A
6. SR-14 Southbound Ramps & Rosamond Boulevard	LOS B	LOS A
7. SR-14 Northbound Ramps & Rosamond Boulevard	LOS A	LOS B
SOURCE: Ruettgers & Schuler, 2019		

TABLE 4.15-2: EXISTING CONDITIONS ROADWAY SEGMENT LEVEL OF SERVICE

Study Roadway Segment	AM Peak Hour	PM Peak Hour
1. Tehachapi Willow Springs Road between Hamilton Road and Rosamond Boulevard	LOS A	LOS A
2. Rosamond Boulevard between 170th Street W and 130th Street W	LOS A	LOS A
3. Rosamond Boulevard between 130th Street W to 90th Street W	LOS A	LOS A
4. Rosamond Boulevard between 90th Street W and SR-14	LOS A	LOS A
SOURCE: Ruettgers & Schuler, 2019		

4.15.3 Regulatory Setting

Federal

Federal Aviation Administration (FAA)

The FAA regulates aviation at regional, public, and private airports. The FAA regulates objects affecting navigable airspace. According to 49 Code of Federal Regulations Part 77.9, any person/organization who intends to sponsor any of the following construction or alterations must notify the Administrator of the FAA of:

Any construction or alteration exceeding 200 feet above ground level;

Any construction or alteration:

- Within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway where the longest airport runway exceeds 3,200 feet in actual length;
- Within 10,000 feet of a public use or military airport which exceeds a 50:1 surface from any point on the runway where the longest airport runway is less than 3,200 feet in actual length; and
- Within 5,000 feet of a public use heliport which exceeds a 25:1 surface;

Any highway, railroad, or other traverse way whose prescribed adjusted height would exceed the above standards;

When requested by the FAA; and

Any construction or alteration located on a public use airport or heliport regardless of height or location.

Failure to comply with the provisions of Federal Aviation Regulation Part 77 is subject to civil penalty under Section 902 of the Federal Aviation Act of 1958, as amended, and pursuant to 49 United States Code Section 46301(a).

State

California Department of Transportation

The 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) has been under the jurisdiction of Caltrans District 9 as of November 2015; prior to that time, all of Kern County was under the jurisdiction of Caltrans District 6. The Caltrans regulations below apply to potential transportation and traffic impacts of the project.

California Vehicle Code (CVC), Division 15, Chapters 1 through 5 (Size, Weight, and Load). Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.

California Street and Highway Code, Sections 660-711, 670-695. Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery, includes regulations for the care and

protection of State and county highways and provisions for the issuance of written permits, and requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.

Project Development Procedures Manual, Chapter 27. Access Control Modification. Requires Caltrans approval of proposed connections to a public road through submittal of a proposal to Caltrans (Caltrans, 2016).

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan Circulation Element for transportation that are applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference. The design level-of-service (LOS) for Kern County is LOS C. The minimum LOS for conformance with the Kern County General Plan is LOS D.

Circulation Element

2.1 Introduction

Goals

- Goal 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.
- Goal 5: Maintain a minimum [level of service] LOS D for all roads throughout the County.

2.3.3 Highway Plan

Goal

- Goal 5: Maintain a minimum LOS D.

Policies

- Policy 1: Development of roads within the County shall be in accordance with the Circulation Diagram Map. The charted roads are usually on section and midsection lines. This is because the road centerline can be determined by an existing survey.
- Policy 2: This plan requires, as a minimum, construction of local road widths in areas where the traffic model estimates little growth through and beyond 2010. Where the Kern County Planning and Natural Resources Department's growth estimates indicate more than a local road is required, expanded facilities shall be provided. The timing and scope of required facilities should be set up and implemented through the Kern County Land Division Ordinance. However, the County shall routinely protect all surveyed section lines in the

Valley and Desert regions for arterial right-of-way. The County shall routinely protect all midsection lines for collector highways in the same regions. The only possible exceptions shall be where the County adopts special studies and where Map Code 4.1 (Accepted County Plan) areas occur. In the Mountain Region where terrain does not allow construction on surveyed section and midsection lines, right-of-way width shall be the size shown on the diagram map. No surveyed section and midsection “grid” will comprehensively apply to the Mountain Region.

Policy 3: This plan’s road-width standards are listed below. These standards do not include state highway widths that would require additional right-of-way for rail transit, bike lanes, and other modes of transportation. Kern County shall consider these modifications on a case-by-case basis.

Expressway [Four Travel Lanes] Minimum 110-foot right-of-way;

Arterial [Major Highway] Minimum 110-foot right-of-way;

Collector [Secondary Highway] Minimum 90-foot right-of-way;

Commercial-Industrial Street Minimum 60-foot right-of-way; and

Local Street [Select Local Road] Minimum 60-foot right-of-way.

Implementation Measure

Measure A: The Planning Department shall carry out the road network policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. The Planning Department can help developers and property owners in identifying where planned circulation is to occur.

2.3.4 Future Growth

Goal

Goal 1: To provide ample flexibility in this plan to allow for growth beyond the 20-year planning horizon.

Policies

Policy 2: The County should monitor development applications as they relate to traffic estimates developed for this plan. Mitigation is required if development causes affected roadways to fall below LOS D. Utilization of the California Environmental Quality Act (CEQA) process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space, and Conservation Element to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build offsite transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.

Policy 4: As a condition of private development approval, developers shall build roads needed to access the existing road network. Developers shall build these roads to County standards

unless improvements along state routes are necessary then roads shall be built to California Department of Transportation (Caltrans) standards. Developers shall locate these roads (width to be determined by the Circulation Plan) along centerlines shown on the circulation diagram map unless otherwise authorized by an approved Specific Plan Line. Developers may build local roads along lines other than those on the circulation diagram map. Developers would negotiate necessary easements to allow this.

Policy 5: When there is a legal lot of record, improvement of access to County, city or State roads will require funding by sources other than the County. Funding could be by starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.

Policy 6: The County may accept a developer's road into the County's maintained road system. This is at Kern County's discretion. Acceptance would occur after the developer follows the above requirements. Roads are included in the County road maintenance system through approval by the Board of Supervisors.

Implementation Measures

Measure A: The County should relate traffic levels to road capacity and development levels. To accomplish this, the Kern County Roads Department and the Kern County Planning and Natural Resources Department should set up a monitoring program. The program would identify traffic volume to capacity ratios and resulting level of service. The geographic base of the program would be traffic zones set up by Kern Council of Governments.

Measure C: Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.

2.3.6 Vacation of Existing or Recorded Future Streets, Highways, or Public Easements

Goal

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 1: A road vacation influencing the construction or operation of expressway, an arterials or collector highway may occur with, or after, amending this Element. Kern County will not vacate any public expressway, arterial or collector highway right-of-way without amendment to this Element. The County will need to amend the right-of way status to local or commercial-industrial streets.

Policy 2: 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 10: A road vacation may be approved if there is an agreement to close a public street. A road vacation may be approved with acknowledgment of an impassable street. A road vacation may be approved with a land division map over the area of vacation if the project has comparable methods of vehicular access.
- Policy 11: A road vacation procedure may be used for considering public service easement or utility service easement abandonments. The procedure is the same as any public right-of-way vacation.
- Policy 12: A vacation of improved road right-of-way, or public service easement, should not occur until the lead agency makes findings. One important finding is the land is no longer needed for public use. A vacation of improved road right-of-way, or public service easement, should not occur until the right-of-way is superseded by relocation, and improved to acceptable Kern County Development standards. The Board of Supervisors shall have accepted the replacement facility into the maintained road system.

Policy 13: A general vacation proceeding (consistent with State of California Streets and Highway Code) will require a public hearing when the vacation affects existing in place facilities or is a project caused by relocating right-of-way.

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.

Implementation Measures

Measure A: Kern County should require a research fee to determine if a complex vacation application is acceptable.

Measure B: In resolving a vacation request, the Board of Supervisors will follow the policies and laws applicable to such vacation request. Before taking final action, the Board of Supervisors may require the applicant to submit additional study(s). Staff shall oversee the applicant's information gathering process and suggest alternatives if necessary.

Measure C: The Planning Department shall issue guidelines for applicants to use in the preparation of road vacation applications and attendant reports.

2.3.10 Congestion Management Programs

State law requires that urbanized counties prepare an annual congestion management program (CMP). City and county eligibility for new gas tax subventions is contingent upon their participation in the congestion management program. To qualify for funding provided through the State Transportation Improvement Program (STIP) or the Federal Transportation Improvement Program (FTIP), the regional transportation agency must keep current a Regional Transportation Program (RTP) that contains the CMP. Also, the CMP offers local jurisdictions the opportunity to find cooperative solutions to the multi-jurisdictional problems of air pollution and traffic congestion.

The CMP has links with air quality requirements. The California Clean Air Act requires that cities and counties implement transportation control measures (TCMs) to attain, and maintain, the State air quality standard.

Goals

Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern Council of Government's Congestion Management Program.

Goal 2: To coordinate congestion management and air quality requirements and avoid multiple and conflicting requirements.

Policies

Policy 1: Pursuant to California Government Code 65089(a), Kern County has designated Kern Council of Governments as the County's Congestion Management Agency (CMA).

Policy 2: The Congestion Management Agency is responsible for developing, adopting, and annually updating a Congestion Management Plan. The Plan is to be developed in

consultation with, and with the cooperation of, the regional transportation agency (also Kern Council of Governments), regional transportation providers, local governments, Caltrans, and the air pollution control district.

Implementation Measures

- Measure A: Kern County Council of Governments should request the proper consultation from County of Kern to develop and update the proper congestion management program.
- Measure B: The elements within the Kern Congestion Management Program are to be implemented by each incorporated city and the County of Kern. Specifically, the land use analysis program, including the preparation and adoption of deficiency plans is required. Additionally, the adoption of trip reduction and travel demand strategies are required in the Congestion Management Program.

2.5.1 Trucks and Highways

The Kern County road network handles a high ratio of heavy truck traffic. State highways carry most of this traffic. Most of the trucks are interstate carriers. As such, interstate trucking is not under the direct control of County officials. In as much as this traffic affects County residents and taxpayers, they need actions to guarantee State highways in Kern County receive a fair share of California's transportation investment.

Goals

- Goal 1: Provide for Kern County's heavy truck transportation in the safest way possible.
- Goal 2: Reduce potential overweight trucks.
- Goal 3: Use State Highway System improvements to prevent truck traffic in neighborhoods.

Policies

- Policy 1: Caltrans should be made aware of the heavy truck activity on Kern County's roads.
- Policy 2: Start a program that monitors truck traffic operations.
- Policy 3: Promote a monitoring program of truck lane pavement condition.

Willow Springs Specific Plan

The entire project is subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in April 2008 and contains goals, policies, and standards that are compatible with those in the Kern County General Plan, but are unique to the specific needs of the Willow Springs Area. The transportation-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County Department of Planning and Development Services 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

Circulation Element

Goals

- Goal 5 To maintain public safety within the plan area by providing a more direct and efficient circulation system for law enforcement and fire protection vehicles.
- Goal 7 To provide an adequate circulation system which will support the proposed land uses.

Policies

- Policy 7 Require the widening of impacted roadways to handle increased traffic generated by new development.
- Policy 8 Encourage resourceful air quality improvement and reduction methods.

Mitigation/Implementation Measures

- Measure 9 A traffic study in accordance with the requirements of Kern County and CalTrans, as appropriate, shall be submitted for all discretionary projects. Study shall demonstrate consistency with the Willow Springs Specific Plan.
- Measure 13 The Traffic Impact Fee Program implements Mitigation Measure 10 of the Willow Springs Final Environmental Impact Report (EIR).

Kern Council of Governments Congestion Management Program

All urbanized areas with a population larger than 200,000 residents are required to have a Congestion Management System, program, or process. The Kern Council of Governments (Kern COG) refers to its congestion management activities as the Congestion Management Program (CMP). Kern COG was designated as the Congestion Management Agency.

The CMP provides a systematic process for managing congestion and information regarding (1) transportation system performance, and (2) alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet State and local needs. The purpose of the CMP is to ensure that a balanced transportation system is developed that relates population growth, traffic growth and land use decisions to transportation system level of service (LOS) performance standards and air quality improvement. The program attempts link land use, air quality, transportation, advanced transportation technologies as integral and complementary parts of this region's plans and programs.

The purpose of defining the CMP network is to establish a system of roadways that will be monitored in relation to established LOS standards. At a minimum, all State highways and principal arterials must be designated as part of the Congestion Management System of Highways and Roadways. Kern County has 18 designated state highways.

Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern COG, and was adopted on August 16, 2018. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in

Kern County. It was developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between local, regional, State, and federal agencies. Included in the 2018 RTP is the Sustainable Communities Strategy (SCS), which is required by California's Sustainable Communities and Climate Protection Act, of Senate Bill (SB) 375. The California Air Resources Board (CARB) set Kern greenhouse gas (GHG) emissions reductions from passenger vehicles and light-duty trucks by 5 percent per capita by 2020 and 10 percent per capita by 2035 as compared to 2005. In addition, SB 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation (RHNA) ensuring consistency between low income housing need and transportation planning. Kern COG engaged in the RHNA process concurrently with the development of the 2014 RTP. This process required Kern COG to work with its member agencies to identify areas within the region that can provide sufficient housing for all economic segments of the population and ensure that the state's housing goals are met.

The intent of the SCS is to achieve the State's emissions reduction targets for automobiles and light trucks. The SCS will also provide opportunities for a stronger economy, healthier environment, and safer quality of life for community members in Kern County. The RTP/SCS seeks to: improve economic vitality; improve air quality; improve the health of communities; improve transportation and public safety; promote the conservation of natural resources and undeveloped land; increase access to community services; increase regional and local energy independence; and increase opportunities to help shape our community's future.

The 2018 RTP/SCS financial plan identifies how much money is available to support the region's transportation investments. The plan includes a core revenue forecast of existing local, state and federal sources along with funding sources that are considered to be reasonably available over the time horizon of the RTP/SCS. These new sources include adjustments to state and federal gas tax rates based on historical trends and recommendations from two national commissions (National Surface Transportation Policy and Revenue Study Commission and National Surface Transportation Infrastructure Financing Commission), leveraging of local sales tax measures, local transportation impact fees, potential national freight program/freight fees, future state bonding programs and mileage based user fees (Kern COG, 2018).

Kern County Airport Land Use Compatibility Plan (ALUCP)

The Kern County Airport Land Use Compatibility Plan (ALUCP) establishes procedures and criteria to assist Kern County and affected incorporated cities in addressing compatibility issues between airports and surrounding land uses. Lloyd's Landing, a private airstrip, is located approximately 1 miles east of the project site. The Rosamond Skypark is located approximately 7 miles east of the project site. The General William J. Fox Airfield is located approximately 12 miles southeast of the project site. The Mountain Valley Airport is located approximately 13 miles north of the project site. The Mojave Air and Space Port is located approximately 14 miles northeast of the project site. The project is also located approximately 25 miles northwest of the airstrips at EAFB. However, the project is not located within a designated Airport Land Use Compatibility zone.

4.15.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to transportation have been evaluated using a variety of resources, including the Traffic Investigation (Ruettgers & Schuler, 2019) attached as Appendix P of this EIR.

Build Year and Cumulative Traffic

As noted above in Section 4.15.2, *Environmental Setting*, existing AM and PM peak hour turning movement volumes were field measured at the study intersections in December 2018. In order to project background traffic volumes in the build year of 2021, the existing volumes were adjusted using a 2 percent growth rate. In order to evaluate the project considering cumulative traffic conditions, a list of projects in the vicinity of the project site was provided by the Kern County Planning Department. Based on the locations and types of projects provided in the cumulative projects list, peak hour turning movement volumes were calculated and added to the 2021 volumes. It was determined that project traffic generated by cumulative projects located further than six miles from the project site would not have a noticeable effect on traffic conditions at study intersections or roadway segments, and therefore vehicle trips that would be generated by those project were not considered in the cumulative traffic analysis for the proposed project.

Project Trip Generation, Distribution, and Assignment

Traffic accessing the project site is anticipated to come mainly from surrounding population centers such as Rosamond, Palmdale, Mojave, Lancaster, and Tehachapi. Traffic from Tehachapi and to the west, is anticipated to access the project site via Tehachapi Willow Springs Road. Traffic coming from northeast and south is anticipated to access the project site via SR-14.

Construction

Traffic generated by construction of the proposed project would include personnel vehicles and heavy trucks. These vehicles would access the project site via 140th Street West, 130th Street West, Avenue of the Stars, 105th Street West and/or Hamilton Road. Separate analyses were conducted, assigning 100 percent of construction traffic at each of these access points in order to identify the maximum impact the proposed project could have on the adjacent roadway system. An additional analysis was conducted at the intersection of 90th Street W/Rosamond Boulevard, in order to evaluate the potential impact of construction traffic traveling to/from the project site via W Avenue A instead of Rosamond Boulevard. Trip generation estimates for construction traffic utilizing these roadways are presented in **Table 4.15-3, Project Trip Generation – Construction**.

TABLE 4.15-3: PROJECT TRIP GENERATION – CONSTRUCTION

Traffic Type	Variable	ADT	AM Peak Hour Trips		PM Peak Hour Trips	
			Inbound	Outbound	Inbound	Outbound
Personnel	495	990	495	0	0	495
Heavy Trucks	79	269	22	0	0	22
Total Trips		1,259	517	0	0	517
SOURCE: Ruettgers & Schuler, 2019						

As shown in the table, during the peak of construction operations, it is anticipated that a maximum of 495 workers will be on site daily. For purposes of the traffic analysis, the conservative assumption was used that 495 workers would be on site per day and each worker will commute to and from the site in individual vehicles (i.e., no carpooling). This assumption results in 990 daily personal vehicle trips (combined inbound and outbound). Following the Highway Capacity Manual guidelines, heavy truck volumes were converted to passenger-car equivalent volumes using a factor of 1.7 trips per day to account for the effective reduction in free-flow speed (mean traffic speed under low-flow conditions) caused by the presence of heavy vehicles in the traffic flow. Heavy truck trips were estimated to be 79 per day based on assumptions regarding daily deliveries of materials, equipment, and water anticipated for construction. It was assumed that the trucks would enter the facility throughout the day, and therefore only a portion of the trucks are shown in the peak AM and PM hours.

Operation and Maintenance

Upon completion of the construction and testing phases, the proposed project would be operated by up to 12 full-time or part-time staff. Operations and maintenance staff would periodically visit various parts of the proposed solar facilities for inspection, security, maintenance, and system monitoring purposes.

The proposed project will also conduct a bi-annual washing of all solar panels. This activity would typically be carried out over a period of 10 days, and include approximately 12 personnel and 33 heavy trucks to deliver the required water for the panel washing. The panel washing scenario was used as the highest generator of traffic during the operation and maintenance phase and therefore provides a conservative trip generation estimate. Heavy truck trips would make deliveries throughout the work day, and therefore only a small number (approximately five) would enter or exit the project site during peak hours. However, it is conservatively assumed for the traffic analysis that all full-time staff and panel washing personnel would enter and exit the project site during the peak hours. Trip generation estimates for traffic accessing the project site during project operation and maintenance are presented in **Table 4.15-4, Project Trip Generation – Operation and Maintenance**. As noted previously, heavy truck volumes were converted to passenger-car equivalent volumes using a factor of 1.7 trips per day to account for the effective reduction in free-flow speed caused by the presence of heavy vehicles in the traffic flow.

TABLE 4.15-4: PROJECT TRIP GENERATION – OPERATION AND MAINTENANCE

Traffic Type	Variable	ADT	AM Peak Hour Trips		PM Peak Hour Trips	
			Inbound	Outbound	Inbound	Outbound
Personnel	12	24	12	0	0	12
Heavy Trucks	33	113	9	0	0	9
Total Trips		137	21	0	0	21
SOURCE: Ruettgers & Schuler, 2019						

Thresholds of Significance

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

A project could have a significant adverse effect on transportation if it would:

- a. Conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as follows:
 - i. Metropolitan Bakersfield General Plan LOS C, and
 - ii. Kern County General Plan LOS D
- b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b);
- c. Substantially increases hazards due to a geometric design feature (such as sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- d. Result in inadequate emergency access;

As lead agency, Kern County determined in the Notice of Preparation/Initial Study (NOP/IS), attached as Appendix A of this EIR, that the project would not result in significant impacts to one of these environmental issue areas; this issue is thus scoped out of this EIR. It was determined that the project would not:

- a. Conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as follows:
 - i. Metropolitan Bakersfield General Plan LOS C

As detailed in the NOP/IS, the project is not located in or near the metropolitan Bakersfield area. Therefore, further analysis of this topic in the EIR is not warranted.

Project Impacts

Impact 4.15-1: The project would conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as follows: Kern County General Plan LOS “D.”

The proposed project would include a request for approval to allow the vacation of existing public access easements as well as an amendment to the Circulation Element of the Kern County General Plan and the Willow Spring Specific Plan. The approval to allow vacation of existing public access easements on the project site are shown in Chapter 3, *Project Description*, Figure 3-9a-e, *Public Access Easement Vacations*, 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. The Circulation Element Amendment (General Plan and Specific Plan) would remove sections and midsection line road reservations, as shown in Chapter 3, *Project Description*, Figure 3-10, *Circulation Element Road Reservation Removal*, of this EIR. A full list of the sections and midsection line road reservations included in the amendment are included in Chapter 3, *Project Description*, of this EIR.

Construction

Intersection LOS

An analysis was done to determine the intersection LOS during the construction phase of the proposed project, which is expected to peak in 2021. The guidelines in the Caltrans publication *Guide for the Preparation of Traffic Impact Studies* (December, 2002), states that a facility is required to be analyzed when a project will generate more than 100 peak hour trips at a facility operating above a LOS C. While the proposed project would generate more than 100 peak hour trips at some of the study intersections, the scope also took into account the routes used to access the project site, by personnel and heavy trucks, and the intersections where the project traffic would be concentrated.

The project construction LOS analysis includes an annual growth rate of 2 percent between 2018 and 2021, in addition to the cumulative traffic generated by other foreseeable projects, as provided by Kern County, within a six-mile radius of the project site. Based on a review of the proposed project's location, and the surrounding roadway network, it was determined that traffic generated by other projects further then six miles from the project site would not contribute traffic to the study intersections and roadway segments.

Table 4.15-5, *Project Construction AM and PM Peak Hour Intersection Level of Service*, shows the results of the analysis for project-generated construction traffic as well as the cumulative analysis of other projects within the six-mile buffer. The list of approved, but not yet constructed, solar and wind energy projects within the buffer zone is provided in Appendix P. Each of the cumulative projects was evaluated for its potential to contribute incrementally to the traffic impacts associated with the proposed project in the event that construction might take place concurrently.

TABLE 4.15-5: PROJECT CONSTRUCTION AM AND PM PEAK HOUR INTERSECTION LEVEL OF SERVICE

Study Intersection	Peak Hour	2021	2021+Project 140th	2021+Project 130th	2021+Project Hamilton
1. Tehachapi Willow Springs Road & Hamilton Road	AM	LOS A	LOS A	LOS A	LOS B
	PM	LOS A	LOS A	LOS A	LOS B
2. 170th Street W & Rosamond Boulevard	AM	LOS A	LOS A	LOS A	LOS A
	PM	LOS A	LOS A	LOS A	LOS A
3. 140th Street W & Rosamond Boulevard	AM	LOS A	LOS A	LOS A	LOS A
	PM	LOS A	LOS B	LOS A	LOS A
4. 130th Street W & Rosamond Boulevard	AM	LOS A	LOS B	LOS B	LOS A
	PM	LOS A	LOS A	LOS B	LOS A
5. 90th Street W & Rosamond Boulevard	AM	LOS A	LOS B	LOS B	LOS B
	PM	LOS A	LOS C	LOS C	LOS C
5. 90th Street W & Rosamond Boulevard (W Ave A via 90th Ave)	AM	—	—	—	LOS B
	PM	—	—	—	LOS C
6. SR-14 Southbound Ramps & Rosamond Boulevard	AM	LOS B	LOS B	LOS B	LOS B
	PM	LOS A	LOS B	LOS B	LOS B
7. SR-14 Northbound Ramps & Rosamond Boulevard	AM	LOS B	LOS B	LOS B	LOS B
	PM	LOS B	LOS C	LOS C	LOS C

SOURCE: Ruettgers & Schuler, 2019

As shown in the table, all intersections would continue to operate at an acceptable level of service during both the AM and PM peak hours for all traffic study scenarios with the addition of project construction traffic and cumulative traffic through the build year. As such, the impact to study intersections would be less than significant.

Roadway Capacity

Table 4.15-6, *Project Construction Roadway Segment Level of Service*, provides the analysis results for the four study roadway segments for each of the traffic scenarios evaluated. The same guidelines used for intersection analysis from the Caltrans guidelines were used to determine the scope of roadways to analyze. The volumes and analysis shown the table include the annual growth rate of 2 percent between 2018 and 2021, traffic generated by cumulative projects, and project construction traffic.

As shown in the table, all study roadway segments would continue to operate at an acceptable level of service for all traffic study scenarios with the addition of project construction traffic and cumulative traffic through the build year. As such, the impact to study roadway segments would be less than significant.

TABLE 4.15-6: PROJECT CONSTRUCTION ROADWAY SEGMENT LEVEL OF SERVICE

Study Roadway Segment	2021	2021+Project 140th	2021+Project 130th	2021+Project Hamilton
1. Tehachapi Willow Springs Road between Hamilton Road and Rosamond Boulevard	LOS A	LOS A	LOS A	LOS A
2. Rosamond Boulevard between 170th Street W and 130th Street W	LOS A	LOS A	LOS A	LOS A
3. Rosamond Boulevard between 130th Street W to 90th Street W	LOS A	LOS A	LOS A	LOS A
4. Rosamond Boulevard between 90th Street W and SR-14	LOS A	LOS A	LOS A	LOS A

SOURCE: Ruettgers & Schuler, 2019

Operation and Maintenance

As shown previously in Table 4.15-4, the project's operation and maintenance phase would generate considerably less traffic than the construction phase. Therefore, using the same criteria as the construction phase to determine the need to study roadway facilities, no further analysis is required for the operational phase of the proposed project. Consistent with the determination for project construction, the impact to study intersections and roadway segments would be less than significant for project operation and maintenance.

Decommissioning

Decommissioning impacts would be relatively similar to those identified for construction of the project and would be short-term and temporary. Thus, decommissioning of the project would result in a less-than-significant impact with respect to LOS for roadways.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Impact 4.15-2: The project would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards developed by the county congestion management agency for designated roads or highways.

The new *CEQA Guidelines* section 15064.3, subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the *CEQA Guidelines* criteria for determining the significance of transportation impacts are primarily focused on projects within transit priority areas, and shifts the focus from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses. Vehicle miles traveled, or VMT, is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person.

The newly adopted guidance provides that a lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide. Kern County is currently engaged in this process and have not yet formally adopted its updated transportation significance thresholds or its updated transportation impact analysis procedures. Since the regulations of SB 743 have not been finalized or adopted by the County, automobile delay remains the measure used to determine the significance of a traffic impact. Therefore, impacts related to *CEQA Guidelines* section 15064.3, subdivision (b) would be less than significant.

Although not required, a VMT analysis was nonetheless prepared for the proposed project for informational purposes only. VMT data was obtained from the Kern COG in order to establish a baseline for daily vehicle miles traveled in the Rosamond area (see Appendix P). Kern COG's data is estimated based on Select Zone Analyses conducted for the region for establishing traffic models of existing and future land development projects. Based on household and employment populations in the Rosamond area, as well as travel patterns throughout the region, Kern COG data has established that the average VMT per trip is 43.2 miles.

In order to establish the anticipated VMT profile for the proposed project, an investigation into the truck and personnel trips involved in the construction process was conducted. The primary factor involved in this evaluation is the location of the project site in relation to the surrounding population centers and points of origin for equipment, supplies and personnel. Based on the information gathered, 50 percent of the construction personnel was estimated to be drawn from the local population (i.e., Lancaster, Rosamond and Mojave). It is anticipated that approximately 30 percent of the remaining construction personnel would temporarily relocate to one of these areas for the duration of project construction. The remaining 20 percent of the construction personnel were considered to be non-local and would be drawn from Bakersfield, Tehachapi, and other areas outside of the Antelope Valley.

The average trip length for construction personnel traveling to the project site from the surrounding population centers mentioned above was determined to be approximately 25 miles. The average trip length for trucks delivering water, materials and equipment from local and non-local sources was determined to be approximately 57 miles. The combined average trip length for all personnel and trucks was calculated to be an average trip length of 35 miles.

Operations and maintenance personnel would primarily travel to the site from local population centers, which, as stated above for construction, would result in an average trip length of approximately 25 miles.

Based on the above, the proposed project would result in VMT that is lower than the regional average for both project construction and project operations/maintenance.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Impact 4.15-3: The project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

During construction, 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 and Kern County, 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 Measure MM 4.15-1 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.

Mitigation Measures

Kern County

MM 4.15-1: Prior to the issuance of construction or building permits, the project proponent/operator shall:

- A. Prepare and submit a Construction Traffic Control Plan to Kern County Public Works Department- Development Review and the California Department of Transportation offices for District 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:
 - i. Timing of deliveries of heavy equipment and building materials;
 - ii. Directing construction traffic with a flag person;
 - iii. 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;
 - iv. Ensuring access for emergency vehicles to the project sites;
 - v. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
 - vi. Maintaining access to adjacent property; and,
 - vii. 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.
- B. Obtain all necessary encroachment permits for the work within the road right-of-way or use of oversized/overweight vehicles that will utilize county maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Natural Resources Department, the Kern County Public Works Department-Development Review, and the California Department of Transportation.
- C. Enter into a secured agreement with Kern County to ensure that any County roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and/or Kern County.
- D. Submit documentation that identifies the roads to be used during construction. The project proponent/operator shall be responsible for repairing any damage to non-county maintained roads that may result from construction activities. The project proponent/operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Public Work Department-Development Review and the Kern County Planning and Natural Resources Department.

- E. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in DVD format. The County, in consultation with the project proponent/operator's engineer, shall determine the extent of remediation required, if any.

State Lands Commission

MM 4.15-1: Prior to the issuance of construction or building permits, the project proponent/operator shall:

- A. Prepare and submit a Construction Traffic Control Plan to Kern County Public Works Department- Development Review and the California Department of Transportation offices for District 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:
 - i. Timing of deliveries of heavy equipment and building materials;
 - ii. Directing construction traffic with a flag person;
 - iii. 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;
 - iv. Ensuring access for emergency vehicles to the project sites;
 - v. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
 - vi. Maintaining access to adjacent property; and,
 - vii. 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.
- B. Obtain all necessary encroachment permits for the work within the road right-of-way or use of oversized/overweight vehicles that will utilize county maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Natural Resources Department, the Kern County Public Works Department-Development Review, and the California Department of Transportation.
- C. Enter into a secured agreement with Kern County to ensure that any County roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and/or Kern County.
- D. Submit documentation that identifies the roads to be used during construction. The project proponent/operator shall be responsible for repairing any damage to non-county maintained roads that may result from construction activities. The project

proponent/operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Public Work Department-Development Review and the Kern County Planning and Natural Resources Department.

- E. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in DVD format. The County, in consultation with the project proponent/operator's engineer, shall determine the extent of remediation required, if any.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measure MM 4.15-1, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.15-1, impacts would be less than significant.

Impact 4.15-4: The project would result in inadequate emergency access.

The project site is located in a rural area with the primary access roads (130th Street W, 140th Street W, Hamilton Road) allowing adequate egress/ingress to the site in the event of an emergency. Additionally, as part of the project, additional onsite access roadways (internal to the site) would be constructed. Therefore, the development of the proposed project would not physically interfere with emergency vehicle access or personnel evacuation from the site.

As described above, increased project-related traffic would not cause a significant increase in congestion and or significantly worsen the existing service levels at intersections on area roads; therefore, project-related traffic would not affect emergency access to the project site or any other surrounding location. The proposed project would not require closures of public roads, which could inhibit access by emergency vehicles. For these reasons construction and operation would have a less-than-significant impact on emergency access.

While impacts would be less than significant, Mitigation Measure MM 4.15-1 would provide further assurances for emergency access. Mitigation Measure MM 4.15-1 requires the preparation of a Construction Traffic Control Plan that considers access for emergency vehicles to the project site. During project operation, Mitigation Measure MM 4.15-1 requires the project operator obtain Kern County approval of all proposed access road designs prior to construction, further ensuring onsite emergency access is adequate.

Mitigation Measures

Kern County

Implementation of Mitigation Measure MM 4.15-1 would be required.

State Lands Commission

Implementation of Mitigation Measure MM 4.15-1 would be required.

Level of Significance after Mitigation**Kern County**

With implementation of Mitigation Measure MM 4.15-1, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.15-1, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts from the project, when considered with nearby, reasonably foreseeable planned projects, would occur only during project construction because project operation traffic would be very 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 in the discussion of Impact 4.15-1, the analysis of 2021 traffic conditions (project build-out) includes project construction traffic in combination with traffic that would be generated by cumulative projects within a six-mile radius of the project site. As shown in Table 4.15-5 and Table 4.15-6, all study intersections and roadway segments would operate at an acceptable level of service according to the County's LOS standards during both the AM and PM peak hours for all traffic study scenarios with the addition of project construction traffic and cumulative traffic through the build year. Therefore, cumulative construction traffic impacts would be less than significant.

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 the surrounding roadways with implementation of mitigation measures. And, implementation of mitigation measures would ensure the project's contribution to emergency access and design hazards are reduced to a less than cumulatively considerable level.

Mitigation Measures**Kern County**

To reduce the potentially significant cumulative transportation impact during construction of the proposed project, implementation of Mitigation Measure 4.15-1 would be required.

State Lands Commission

To reduce the potentially significant cumulative transportation impact during construction of the proposed project, implementation of Mitigation Measure 4.15-1 would be required.

Level of Significance after Mitigation**Kern County**

With implementation of Mitigation Measure MM 4.15-1, cumulative impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.15-1, cumulative impacts would be less than significant.

4.16.1 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. The analysis in this section is based on a cultural resources assessment conducted by ICF (ICF, 2019a), and the results of the Native American consultation conducted by the County for purposes of compliance with CEQA requirements prompted by Assembly Bill 52 (AB 52), located in Appendix F of this EIR.

4.16.2 Environmental Setting

Refer to Section 4.5, *Cultural Resources*, of this EIR for a greater discussion of the tribal cultural resources environmental setting.

Existing Tribal Cultural Resources

Native American Correspondence and AB 52 Consultation

As part of the information-gathering process for the cultural resources technical report (ICF, 2019a), ICF conducted Native American outreach which included a Sacred Lands File (SLF) search conducted by the California Native American Heritage Commission (NAHC) on November 30, 2018, and outreach letters sent by ICF on January 17, 2019, to eight tribal groups affiliated within the project site as indicated by the NAHC. The SLF search conducted by the NAHC stated that no Native American cultural resources are known be located within the project site or its immediate vicinity.

As part of the County's government-to-government responsibilities pursuant to AB 52, on August 22, 2019, the County sent consultation notification letters via certified mail to California Native American tribes on the County's Master List for AB 52 consultation. Contacted tribes included Twenty-Nine Palms Band of Mission Indians, And Manuel Band of Mission Indians, Tejon Indian Tribe, and Torres Martinez Desert Cahuilla Indians.

As a result of the cultural resources study conducted for the proposed project, 67 cultural resources were documented or updated, and 28 of these were subject to archaeological test excavation. While no significant subsurface archaeological deposits were found during testing, and all resources were recommended as not eligible by ICF (ICF, 2019a), the Lead Agency, through the Native American Tribal Consultation process as required by AB 52, has determined that not enough testing has occurred on seven (7) of the sites to definitively reach a conclusion that the sites are less than significant cultural resources and are ineligible for listing or consideration as a tribal cultural resource. The specific sites in question include P-15-019560 through P-15-019566, all of which are prehistoric archaeological sites.

4.16.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

Native American Heritage Commission

Public Resources Code (PRC) Section 5097.91 established the Native American Heritage Commission (NAHC), the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

Assembly Bill 52 and Related Public Resources Code Sections

AB 52 was approved by California State Governor Edmund Gerry “Jerry” Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR) or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the CEQA *Guidelines*, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency’s formal notification and the lead agency must begin consultation within 30 days of receiving the tribe’s request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project’s impacts on the tribal cultural resources; project alternatives or appropriate measures for

preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Local

There are no applicable local regulations for this issue area.

4.16.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to tribal cultural resources have been evaluated using a variety of resources, including an SLF search conducted by the NAHC. AB 52 notification letters were sent to Native American groups and individuals indicated by the NAHC to solicit information regarding the presence of tribal cultural resources, followed by consultation between the County and tribes that responded. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

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

A project would have a significant impact on tribal cultural resources if it would:

- 1) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically

defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
- b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Project Impacts

Impact 4.16-1a: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).

The SLF search conducted by the NAHC did not indicate the presence of tribal cultural resources within or immediately adjacent to the project site. However, the County's government-to-government consultation efforts with interested Native American groups, and specifically the Tejon Indian Tribe and San Manuel Band of Mission Indians, did identify seven (7) archaeological sites that could be considered significant archaeological sites or tribal cultural resources. While no significant subsurface archaeological deposits were found during testing conducted for the project, and all resources were recommended as not eligible by ICF (ICF, 2019a), the Lead Agency, through the Native American Tribal Consultation process as required by Assembly Bill 52, has determined that not enough testing has occurred on seven (7) of the sites to definitively reach a conclusion that the sites are less than significant cultural resources and are ineligible for listing or consideration as a tribal cultural resource (ICF, 2019b). These include P-15-019560 through P-15-019566, all of which are prehistoric archaeological sites. However, the configuration of the proposed project would result in complete avoidance of any construction or operational activities in these areas. Mitigation Measure MM 4.5-2, included in Section 4.5, *Cultural Resources*, of this EIR requires the project proponent to prepare a Cultural Resources Treatment Plan showing how these sites would be avoided during construction and operational activities prior to issuance of any grading or building permits. As such, no further testing was required as part of the CEQA evaluation, and with the proposed mitigation the resources would not be impacted by the project and impacts would be less than significant.

Mitigation Measures

Kern County

Implementation of Mitigation Measure MM 4.5-2 would be required.

State Lands Commission

Implementation of Mitigation Measure MM 4.5-2 would be required.

Level of Significance after Mitigation**Kern County**

With implementation of Mitigation Measure MM 4.5-2, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.5-2, impacts would be less than significant.

Impact 4.16-1b: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

As noted above, no tribal cultural resources were identified through the SLF search conducted by the NAHC, but seven (7) prehistoric archaeological sites (P-15-019560 through P-15-019566) would require additional archaeological test excavation to definitively reach a conclusion that the sites are less than significant cultural resources and are ineligible for listing or consideration as a tribal cultural resource (ICF, 2019b). However, the configuration of the proposed project would result in complete avoidance of any construction or operational activities in these areas. As noted above, Mitigation Measure MM 4.5-2, included in Section 4.5, *Cultural Resources*, of this EIR requires the project proponent to prepare a Cultural Resources Treatment Plan showing how these sites would be avoided during construction and operational activities prior to issuance of any grading or building permits. As such, no further testing was required as part of the CEQA evaluation, and with the proposed mitigation the resources would not be impacted by the project and impacts would be less than significant.

Mitigation Measures**Kern County**

Implementation of Mitigation Measure MM 4.5-2 would be required.

State Lands Commission

Implementation of Mitigation Measure MM 4.5-2 would be required.

Level of Significance after Mitigation**Kern County**

With implementation of Mitigation Measure MM 4.5-2, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.5-2, 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 discussed in Chapter 3, *Project Description*, of this EIR, would have on tribal cultural resources. The geographic area of analysis for tribal cultural resources includes the western portion of the Antelope 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. This is a large enough area to encompass any effects of the project on tribal cultural resources that may combine with similar effects caused by other projects, and provides a reasonable context wherein cumulative actions could affect tribal cultural resources.

Multiple projects, including solar energy production facilities, are proposed throughout the western Antelope Valley. Cumulative impacts to tribal cultural resources could occur if other related projects, in conjunction with the proposed project, had or would have impacts on cultural resources that, when considered together, would be significant.

Potential impacts of the project to tribal cultural resources, in combination with other projects in the area, could contribute to a cumulatively significant impact due to the overall loss of resources unique to the region. However, as discussed above, no specific tribal cultural resources have been identified in the project area, and the seven archaeological sites that might qualify as tribal cultural resources will be avoided by project design and implementation of Mitigation Measure MM 4.5-2. As such, the project would not have an impact on tribal cultural resources. Therefore, the project would not have a cumulatively considerable contribution to impacts to tribal cultural resources and impacts would be less than significant.

Mitigation Measures**Kern County**

Implementation of Mitigation Measure MM 4.5-2 would be required.

State Lands Commission

Implementation of Mitigation Measure MM 4.5-2 would be required.

Level of Significance after Mitigation**Kern County**

With implementation of Mitigation Measure MM 4.5-2, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.5-2, impacts would be less than significant.

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4.17.1 Introduction

This section of the EIR describes the affected environment and regulatory setting of the proposed project pertaining to demand for operational utilities (water supply, stormwater, solid waste disposal, electricity, natural gas, and telecommunications). This section describes existing infrastructure and levels of service and evaluates whether any improvements would be necessary to accommodate the project. The information and analysis in this section is based on the project-specific *Final Water Supply Assessment Technical Report* (Watearth, Inc., 2019a) and *Final Hydrology Assessment Technical Report* (Watearth, Inc., 2019b) included in Appendix M and Appendix N of this EIR, respectively.

4.17.2 Environmental Setting

Water Supply

There are typically three sources of supply water for development: (1) natural sources; (2) manmade sources; and (3) reclamation. Natural sources include rivers, lakes, streams, and groundwater stored in aquifers. Manmade sources include runoff water that is treated and stored in reservoirs and other catchment structures. Reclaimed water is wastewater that has been conveyed to a treatment plant and then treated to a sufficient degree that it may again be used for certain uses, such as irrigation. However, reclaimed water is not potable (drinkable) and must be conveyed in a separate system in order to ensure that there is no possibility of direct human consumption.

The project site is located in southern Kern County. The project site is not located in an urban area and does not fall under any active Urban Water Management Plans (Watearth, Inc., 2019a). The project site is currently undeveloped desert land with no supplied or supplemental water demand, and is not within the boundaries of an existing public water system's service area. The nearest existing water utility system is the Rosamond Community Services District (RCSD); the western service boundary of the RCSD is located approximately 5 miles to the west/southwest of the project site. The Tehachapi-Cummings County Water District (TCCWD) is another nearby local public water system located approximately 5.5 miles north of the project site (Department of Water Resources [DWR], 2019). Both the RCSD and TCCWD are unable to serve the project site since the project site itself is outside of their respective service boundaries (Watearth, Inc., 2019a).

When a water supplier cannot be identified, as is the case with the proposed project, an alternative water supplier must be identified. The applicant has identified two potential water supplies.

The first potential water supplier would be a private well owner, Renewable Resources Group (RRG). RRG is a private water purveyor with a 1,159 acre-feet per year (AFY) water right in the Antelope Valley Groundwater Basin (Basin). RRG has two wells within the Basin, located at 125th Street West and Rosamond Boulevard and 120th Street West and Rosamond Boulevard. According to the 2016 Annual Report by the Watermaster, the most recent year of data available, RRG did not produce water from this water right and

therefore there may be up to 100-percent availability. The proposed project's water requirements for operations represent less than one percent of RRG's adjudicated water rights (Watearth, Inc., 2019a).

Although the project site is located outside of the boundary of the RCSD, RCSD stated that sufficient water exists within its system to supply construction, photovoltaic (PV) block washing, and O&M water for the proposed project (Watearth, Inc., 2019a). RCSD anticipates a projected water supply availability of 2,304 acre-feet (AF) in 2020, which represents the lowest available year through the 2040 planning horizon (Watearth, Inc., 2019a). The RCSD well that would be used is approximately 9 miles southeast of the site boundary. If this water source is used, water trucks will be used to transport water to the site for all uses. The proposed project's water requirements for operations represent approximately 2% of RCSD's water supply availability (Watearth, Inc., 2019a). Bottled water would be provided for potable water demand.

Groundwater Supply

The project site is located in the South Lahontan Hydrologic Region, and specifically within the Antelope Valley Groundwater Basin. The Basin is primarily fed from runoff from Big Rock and Little Rock Creeks, and from Oak Creek. Total water storage within the Basin is reported to be in the range of 68 million to 70 million AF. The Basin covers about 940 square miles and is separated from the northern part of the Antelope Valley by faults and low-lying hills (Watearth, Inc., 2019a). Groundwater has been and is an important resource within the Antelope Valley given limits on the available local and imported surface water supply. Anthropogenic groundwater extractions have exceeded the Basin's natural recharge since the 1920s, and have resulted in ground subsidence in some areas (AVIRWMP, 2013). For a discussion of Basin characteristics, please refer to Section 4.10, *Hydrology and Water Quality*, of this EIR.

Groundwater Basin Adjudication

Prior to the Sustainable Groundwater Management Act (SGMA), the primary method for solving groundwater disputes and protecting groundwater basins was litigation. When over-pumping led to a crisis like seawater intrusion or chronic overdraft, people had little choice but to file a lawsuit—called an adjudication—in which all rights to water in a basin could be defined by a court. SGMA now ensures that basins can be managed sustainably through local management plans. In October 2015, Governor Brown signed Assembly Bill No. 1390, which is legislation that provides a comprehensive adjudication process for all groundwater basins that are regulated under the SGMA. Groundwater basins that have been adjudicated by court decision are subject to management by a court-approved Watermaster. A groundwater rights adjudication process is underway for the area managed by the Antelope Valley Integrated Regional Water Management Plan (IRWMP) area, which includes the project site. The parties to the adjudication include non-governmental overlying users, appropriative users, non-user overlying land owners, and federally reserved water rights. The case will define who owns, controls, and uses the water in the basin (AVT, 2015).

In May 2011, the California superior court issued an official decision determining that the adjudication area is in a State of overdraft, and established a safe yield for the Basin of 110,000 AFY, although pumping in the area has ranged up to 150,000 AFY (AVEK, 2016; Antelope Valley Watermaster, 2017).

On December 23, 2015, Judge Komar issued a final judgment that set in motion court-directed procedures for on the Directors of the AVEK to create a Watermaster Organization empowered to monitor the groundwater basin. In their first meeting of the year following settlement of long-running litigation over water rights adjudication, AVEK, as directed by the court, took action to begin the Watermaster transition

process. The judgment specifies that AVEK and Los Angeles County Waterworks District 40 each occupy a seat, along with another public water supplier to be named later.

The judgment confirmed that the Basin is in overdraft and promulgated regulations and procedures to govern groundwater usage in the Basin. It defined Classes of groundwater pumpers, two of which may include groundwater sources for this project – a Non-Pumper Class and a Small Pumper Class. It defined a multi-party ‘Water Master’ to oversee continuing implementation of the Judgment and directed the appointment by the Watermaster of a Water Engineer, defining his duties. The Watermaster and a Water Engineer are in place and are enforcing and implementing the Adjudication.

Any use of groundwater in the Basin, which includes multiple individual parcels, must be compliant with the Adjudication Judgment, and coordinated with the Watermaster as required.

Wastewater

The Kern Sanitation Authority (KSA) provides maintenance and wastewater service for Kern County. As the project site is currently undeveloped, there are no septic systems or infrastructure within the project site boundary. Any wastewater generation occurring within the project site would be collected within individual septic systems that would have to be emptied as part of regular ongoing project-related maintenance.

Stormwater Drainage

The project is in the South Lahontan Hydrologic Region, and specifically within the Willow Springs Sub-Watershed of the Antelope Valley Hydrologic Unit. The total drainage area for the basin is approximately 4,700 acres with an elevation change of 2,400 feet. The Willow Springs Sub-Watershed is a closed basin inside of the Antelope Valley; therefore, there is no connection to the ocean and any precipitation or surface water is transferred via ephemeral streams to existing playas. Water moves through the project site via sheet flow at a low flow rate. The closest playa to the project site is Rosamond Lake to the southeast of the project site, approximately 10 miles from the proposed project. The topography is such that runoff will not be directed towards Rosamond Lake as most rainfall infiltrates into the immediate surrounding soils quickly. Streams and drainage at the project site and in the surrounding area are ephemeral, meaning the flows are brief and dependent upon precipitation (Watearth, Inc., 2019b). Soil and drainage characteristics are further described in Sections 4.7, *Geology and Soils*, and 4.10, *Hydrology and Water Quality*, of this EIR.

Solid Waste

Solid waste generally refers to garbage, refuse, sludge, and other discarded solid materials that come from residential, industrial, and commercial activities. Construction, demolition, and inert wastes are also classified as solid waste. Such wastes include nonhazardous building materials such as asphalt, concrete, brick, drywall, fencing, metal, packing materials, pallets, pipe, and wood. The general waste classifications used for California waste management units, facilities, and disposal sites are outlined below. Nonhazardous solid waste consists of organic and nonorganic solid, semi-solid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes, and other discarded waste, provided that such wastes do not contain hazardous materials or soluble pollutants in concentrations that would exceed applicable water quality objectives or cause a degradation of waters of the State.

California State law regulates the types of waste that can be disposed of at the different classes of landfills. Class I landfills may accept hazardous and nonhazardous wastes. Class II landfills may accept designated and nonhazardous wastes, and Class III landfills may accept nonhazardous wastes.

Kern County is responsible for meeting the California Integrated Waste Management Act of 1989 (AB 939). AB 939 required cities and counties to reduce the amount of solid waste being sent to landfills by 50 percent by January 1, 2000. It also required cities and counties to prepare solid waste planning documents. These documents include the Source Reduction and Recycling Element (SRRE), the Hazardous Waste Element (HHWE), and the Nondisposal Facility Element (NDFE). All three of these documents, as well as the Integrated Waste Management Plan, approved February 1998 by the California Integrated Waste Management Board, have been approved for Kern County. The Kern County Integrated Waste Management Plan is the long-range planning document for landfill facilities.

Construction and demolition (C&D) waste is heavy, inert material. This material creates significant problems when disposed of in landfills. Because C&D waste is heavier than paper and plastic, it is more difficult for counties and cities to reduce the tonnage of disposed waste. For this reason, C&D waste has been specifically targeted by the State of California for diversion from the waste stream. Projects that generate C&D waste should emphasize deconstruction and diversion planning rather than demolition. Deconstruction is the planned, organized dismantling of a prior construction project, which allows maximum use of the deconstructed materials for recycling in other construction projects and sends a minimum amount of the deconstruction material to landfills.

Approved on October 6, 2011, AB 341 intended to promote recycling and diversion of solid waste from landfills by requiring businesses to accomplish recycling activities and/or participate in recycling programs. The Waste Operations Division of the Kern County Public Works Department administers or sponsors the following recycling programs, which contribute toward meeting State-mandated solid waste diversion goals:

- Recycling programs at landfills to recycle or divert a wide variety of products, such as wood waste, cathode ray tubes, tires, inert materials, appliances, etc.;

- Drop-off recycling centers for household recyclables. The County- and the City-operated drop-off recycling centers, which are located in the unincorporated metropolitan area and the city, may be used by both County and city residents;

- Financial assistance for operation of the City of Bakersfield Green Waste Facility;

- The Kern County Special Waste Facility for the disposal of household hazardous waste. Services are provided to all Kern County residents;

- Semi-annual “bulky waste” collection events, which are held in the Bakersfield area and available to both County and city residents (co-sponsor);

- Christmas tree recycling campaign (participates jointly with the City of Bakersfield);

- Telephone book recycling program (co-sponsors with Community Clean Sweep);

- Community Clean Sweep summer workshops called “Trash to Treasure,” which educate children about recycling and other Kern County Waste Management Department programs (sponsor);

- An innovative elementary school program called the “Clean Kids Hit the Road Puppet Show” (operates in collaboration with Community Clean Sweep); and

- Recycling trailers for churches, schools, and nonprofit organizations.

Landfills

The Kern County Public Works Department operates seven recycling and sanitary landfills throughout the County. Landfills are located in Bakersfield, Boron, Mojave-Rosamond, Ridgecrest, Shafter-Wasco, Taft, and Tehachapi (Kern County Waste Management, 2019a). No solid waste is currently generated at the project site. The project would likely be served primarily by the Mojave-Rosamond Landfill, located at 400 Silver Queen Road, in the community of Mojave, approximately 12 miles northeast of the project site. This Class III landfill accepts clean inerts (e.g., source separated asphalt, brick and concrete); C&D waste (e.g., asphalt, brick, concrete, dirt, and metal); dead animals; electronic waste; greenwaste; ordinary household trash; tires; treated wood waste (e.g., grape stakes, utility poles; foundation lumber); and used motor oil. The landfill does not accept hazardous waste, hot ashes, liquids of any kind, and non-friable asbestos (Kern County Waste Management, 2019b). As of 2019, approximately 76,310,297 cubic yards (97.8 percent of the total 78,000,000 cubic yard capacity) remained. The permitted maximum daily disposal is 3,000 tons per day (CalRecycle, 2019a).

The other nearby landfill is the Tehachapi Sanitary Landfill, a Class III landfill which is located approximately 13 miles north of the project site at 12001 East Tehachapi Boulevard, in the City of Tehachapi, over the Tehachapi Mountains. Landfill locations, capacity, and anticipated closure dates are presented in **Table 4.17-1, Summary of Kern County Public Works Landfills**.

TABLE 4.17-1: SUMMARY OF KERN COUNTY PUBLIC WORKS LANDFILLS

Landfill	Distance from Project Site	Maximum Permitted Capacity	Remaining Capacity (cubic yards)	Maximum Permitted Throughput (tons/day)	Anticipated Year of Closure
Mojave-Rosamond 400 Silver Queen Rd. Mojave	17 miles (northeast)	78,000,000	76,310,297	3,000	2123
Tehachapi 12001 E. Tehachapi Blvd. Tehachapi	13 miles (north)	4,000,000	522,298	1,000	2020
SOURCE: CalRecycle, 2019a; CalRecycle, 2019b.					

Electricity, Natural Gas, and Telecommunications

No electricity, natural gas, nor telecommunication facilities are currently located on the project site. Southern California Edison (SCE) and the California Independent System Operator (CAISO) have existing facilities in the project area, including the SCE Tehachapi Renewable Transmission Project, SCE Whirlwind Substation, and SCE transmission line. There are no natural gas pipelines or telecommunication facilities on the project site. SoCalGas is the natural gas provider in this area of Kern County.

4.17.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

California Energy Commission

The California Energy Commission (CEC) is the state's primary energy policy and planning agency. Created in 1974, the CEC has five major responsibilities: forecasting future energy needs and keeping historical energy data, licensing thermal power plants 50 megawatts (MW) or larger, promoting energy efficiency through appliance and building standards, developing energy technologies and supporting renewable energy, and planning for and directing the state response to energy emergencies.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises. In 1911, the CPUC was established by Constitutional Amendment as the Railroad Commission. In 1912, the Legislature passed the Public Utilities Act, expanding the 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 against fraud.

California Department of Resources Recycling and Recovery

California Department of Resources Recycling and Recovery (CalRecycle) is the state agency designated to oversee, manage, and track California's 76 million tons of waste generated each year. It is one of the six agencies under the umbrella of the California Environmental Protection Agency. CalRecycle administers and provides oversight for all of California's State-managed non-hazardous waste handling and recycling program. CalRecycle provides training and ongoing support for local enforcement agencies that regulate and inspect California's active and closed solid waste landfills.

State Water Resources Control Board and Regional Water Quality Control Board

The primary responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs). The SWRCB sets statewide policy for the implementation of state and federal laws and regulations. The RWQCBs adopt and implement Water Quality Control Plans (Basin Plans), which recognize regional

differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities. The project site is within the jurisdiction of the Lahontan RWQCB.

California Department of Water Resources

The DWR is responsible for protecting, conserving, developing, and managing much of California's water supply. These duties include: preventing and responding to floods, droughts, and catastrophic events; informing and educating the public on water issues; developing scientific solutions; restoring habitats; planning for future water needs, climate change impacts, and flood protection; constructing and maintaining facilities; generating power; ensuring public safety; and providing recreational opportunities.

California Water Code Section 13260

California Water Code Section 13260 requires any person who discharges waste, other than into a community sewer system, or proposes to discharge waste that could affect the quality of waters of the state to submit a report of waste discharge to the applicable RWQCB. Any actions of the projects that would be applicable under California Water Code Section 13260 would be reported to the Lahontan Region RWQCB.

Senate Bills 610 and 221

Senate Bill (SB) 610 and SB 221, passed in 2001, are companion measures that seek to promote more collaborative planning among local water suppliers and cities and counties. They require that water supply assessment occur early in the land use planning process for all large-scale development projects. If groundwater is the proposed supply source, the required assessments must include detailed analyses of historic, current, and projected groundwater pumping and an evaluation of the sufficiency of the groundwater basin to sustain a new project's demands. They also require an identification of existing water entitlements, rights, and contracts and a quantification of the prior year's water deliveries. In addition, the supply and demand analysis must address water supplies during normal, single and multiple dry years, presented in five-year increments for a 20-year projection. In accordance with these measures, a WSA is required for a proposed industrial, manufacturing, or processing plant that would house more than 1,000 persons; occupy more than 40 acres of land; or have more than 650,000 square feet of floor area (California Water Code, Section 10912).

California Integrated Solid Waste Management Act of 1989 or Assembly Bill 939

Pursuant to the California Integrated Solid Waste Management Act of 1989 (Public Resources Code [PRC] Section 40050, et seq.) or Assembly Bill (AB) 939, all cities in California are required to reduce the amount of solid waste disposed in landfills. AB 939 required a reduction of 25 percent by 1995 and 50 percent by 2000. Contracts that include work that will generate solid waste, including construction and demolition debris, have been targeted for participation in source-reduction, reuse, and recycling programs. The contractor is urged to manage solid waste generated by the work to divert waste from disposal in landfills (particularly Class III landfills) and maximize source reduction, reuse, and recycling of C&D debris.

Assembly Bill 341

Since the passage of AB 939, diversion rates in California have been reduced to approximately 65 percent, the statewide recycling rate is approximately 50 percent, and the beverage container recycling rate is approximately 80 percent. In 2011, the State passed AB 341, which established a policy goal that a minimum of 75 percent of solid waste must be reduced, recycled, or composted by the year 2020. The State provided the following strategies to achieve that 75 percent goal:

1. Moving organics out of the landfill;
2. Expanding the recycling/manufacturing infrastructure;
3. Exploring new approaches for state and local funding of sustainable waste management programs;
4. Promoting state procurement of post-consumer recycled content products; and
5. Promoting extended producer responsibility.

To achieve these strategies, the State recommended legislative and regulatory changes including mandatory organics recycling, solid waste facility inspections, and revising packaging. With regard to construction and demolition, the State recommended an expansion of California Green Building Code standards that incentivize green building practices and increase diversion of recoverable construction and demolition materials. Current standards require 50 percent waste diversion on construction and some renovation projects, although this may be raised to 65 percent for nonresidential construction in upcoming changes to the standards. The State also recommends promotion of the recovery of construction and demolition materials suitable for reuse, compost or anaerobic digestion before residual wastes are considered for energy recovery.

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act of 1991 (PRC Chapter 18) identified a lack of adequate areas for collecting and loading recyclable materials, resulting in a significant impediment to diverting solid waste. This act requires state and local agencies to address access to solid waste for source reduction, recycling, and composting activities. Each local agency must adopt an ordinance related to adequate areas for collecting and loading recyclable materials for development projects.

Local

Antelope Valley Integrated Regional Water Management Plan

The Antelope Valley IRWMP is a joint water planning effort aimed at ensuring water supply reliability for the Antelope Valley Region, undertaken by agencies which joined to form a Regional Water Management Group, including the following: AVEK Water Agency, Antelope Valley State Water Contractors Association, City of Lancaster, City of Palmdale, Littlerock Creek Irrigation District, Los Angeles County Sanitation District Nos. 14 and 20, Los Angeles County Waterworks District No. 40, Palmdale Water District, Quartz Hill Water District, and Rosamond Community Services District. These agencies have collectively defined a water resource management plan in the Antelope Valley IRWMP, which describes a course of action to meet the expected demands for water within the entire Antelope Valley Region through 2035 (AVIRWMP, 2013).

The primary goals of the Antelope Valley IRWMP are to address the following:

How municipal and industrial (M&I) purveyors can reliably provide the quantity and quality of water that will be demanded by a growing population;

Options to satisfy agricultural users' demand for reliable supplies of reasonable cost irrigation water; and

Opportunities to protect and enhance the current water resources (including groundwater) and the environmental resources within the Antelope Valley Region (AVIRWMG, 2013).

Antelope Valley Watermaster

In accordance with the 2015 adjudication of the Antelope Valley Groundwater Basin establishing a safe yield and decreased respective water rights among groundwater producers, the Antelope Valley Watermaster Board and Advisory Committee were formed in 2016. (Antelope Valley Watermaster, 2019). The Watermaster is responsible for administering adjudicated water rights within the Antelope Valley, including approving new production wells, collecting and reviewing groundwater production reporting forms, and producing annual reports summarizing overall groundwater production and replenishment in the 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 approved February 1998 by the California Integrated Waste Management Board (now California Department of Resources Recycling and Recovery or CalRecycle). The Kern County IWMP is the long-range planning document for landfill facilities (Kern County, 2015).

Kern County Construction Waste Diversion Requirements per the California Green Building Code

As part of compliance with the State of California Green Building Code Requirements (known as CALGreen) that took effect beginning January 2011, Kern County implemented the following construction waste diversion requirements:

Submittal of a Construction Waste Management Plan prior to project construction for approval by the Kern County Building Department;

Recycling and/or reuse of a minimum 65 percent of construction & demolition waste; and

Recycling or reuse of 100 percent of tree stumps, rocks and associated vegetation and soils resulting from land clearing (Kern County, 2018).

Kern County Public Works Department Recycling Programs

The Waste Operations Division of the Kern County Public Works Department administers or sponsors the following recycling programs, which contribute toward meeting State-mandated solid waste diversion goals to achieve 75 percent recycling, composting, or source reduction of solid waste by 2020:

Recycling programs at landfills to recycle or divert a wide variety of products, such as wood waste, cathode ray tubes, tires, inert materials, appliances, etc.;

Drop-off recycling centers for household recyclables. The County- and the City-operated drop-off recycling centers, which are located in the unincorporated metropolitan area and the city, may be used by both County and city residents;

Financial assistance for operation of the City of Bakersfield Green Waste Facility;

The Kern County Special Waste Facility for the disposal of household hazardous waste. Services are provided to all Kern County residents;

Semi-annual “bulky waste” collection events, which are held in the Bakersfield area and available to both County and city residents (co-sponsor);

Christmas tree recycling campaign (participates jointly with the City of Bakersfield);

Telephone book recycling program (co-sponsors with Community Clean Sweep);

Community Clean Sweep summer workshops called “Trash to Treasure,” which educate children about recycling and other Kern County Waste Management Department programs (sponsor);

An innovative elementary school program called the “Clean Kids Hit the Road Puppet Show” (operates in collaboration with Community Clean Sweep); and

Recycling trailers for churches, schools, and nonprofit organizations (County of Kern, 2017).

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for utilities and service systems applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference (Kern County, 2009).

1.4 Public Facilities and Services

Goals

- Goal 1: Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.
- Goal 5: Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.

Policies

- Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.
- Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.
- Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the CEQA documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

Implementation Measures

- Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.
- Measure D: Involve utility providers in the land use and zoning review process.

1.9 Resources***Goal***

- Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

1.10 General Provisions**1.10.1 Public Services and Facilities*****Policies***

- Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.
- Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.
- Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Implementation Measures

- Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.
- Measure D: Involve utility providers in the land use and zoning review process.

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.

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.

Willow Springs Specific Plan

The southern portion of the project site is subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in April 2008 and contains goals, policies, and standards that are compatible with those in the Kern County General Plan, but are unique to the specific needs of the Willow Springs Area. The utilities and service systems-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County Department of Planning and Development Services 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

Public Facilities

Policies

(1) New development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

- (2) Operation of any solid waste facility shall comply with standards provided by the Kern County Solid Waste Management Plan.

Mitigation/Implementation Measures

- (1) The siting and establishment of solid waste transfer stations, landfills, recycling center, and cleanup programs shall be in accordance with Kern County's Solid Waste Management Plan.
- (2) Consideration shall be given to implementation of the following measure to reduce the impacts associated with solid waste generation:
 - a) Compacting refuse would substantially reduce the number of refuse hauling trips and allow for more effective and sanitary disposal.
 - b) Each project applicant shall comply with guidelines set forth by Kern County in accordance with AB 939 which mandates recycling programs for each jurisdiction in California and shall agree to be subject to universal collection for one- to four-unit residential projects and commercial.

Water Quality and Availability

Goal

To ensure that new developments are provided with an adequate water supply and wastewater disposal/treatment facilities.

Policies

- (1) Water supply method and wastewater disposal/treatment facility shall be as required by Kern County.
- (2) Separate environmental documentation shall be required for the methods of water supply and wastewater disposal/treatment selected.

4.17.4 Impacts and Mitigation Measures

Methodology

Potential impacts to utilities and service systems associated with construction and operation of the project have been evaluated using a variety of resources, including multiple online sources and published documents, as well as the project-specific *Final Water Supply Assessment Technical Report* (Watearth, Inc., 2019a) and *Final Hydrology Assessment Technical Report* (Watearth, Inc., 2019b) included in Appendix M and Appendix N of this EIR, respectively. In addition, current data obtained from the County and State of California about the capacity of landfills was used to identify potential impacts. Using these resources and professional judgment, impacts were analyzed according to significance criteria established in Appendix G of the *CEQA Guidelines*, described below.

Thresholds of Significance

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

A project could have a significant adverse effect on utilities and service systems if it would:

- a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- b. Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;
- c. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition the provider's existing commitments;
- d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure or otherwise impair the attainment of solid waste reduction goals; or
- e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

All of the above impact thresholds are addressed in the "Project Impacts" section below.

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. Refer to Appendix A of this EIR for a copy of the NOP/IS:

- b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years

As mentioned above, bottled water would be provided for potable water demand. Non-potable water for construction and operation of the proposed project would be purchased from either RRG or RCSD and would be brought in by water trucks. Because the proposed project would provide its own water source, it would not impact existing water supply systems. As mentioned above, RCSD anticipates a projected water supply availability of 2,304 AF in 2020, which represents the lowest available year through the 2040 planning horizon (Watearth, Inc., 2019a). The WSA assumed that water demand would be the same for normal, dry, and multiple dry years (Watearth, Inc., 2019a). As such, the proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. Therefore, impacts would be less than significant and no further analysis is required.

- 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

As detailed in the NOP/IS, the project would not generate a significant amount of waste that would exceed the capacity of local landfills. Materials brought to the project site would be used to construct facilities, and few residual materials are expected. Non-hazardous construction refuse and solid waste would be disposed of at a local landfill, while any hazardous waste generated during project construction would be disposed of at an approved offsite location. The manufacturer and supplier of the PV modules has established a Collection and Recycling Program to promote the collection and recycling of their modules. The program enables all module components to be recovered and recycled. It is not anticipated that the amount of solid waste generated by the proposed project would exceed the capacity of local landfills needed to accommodate the waste. Therefore, impacts would be less than significant and no further analysis is required.

Project Impacts

Impact 4.17-1: The project would require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

Construction

Water

During construction, bottled potable water would be brought to the project site for drinking needs for construction workers. Water demand during construction of the proposed project would be approximately 150 AF over a 10 to 14-month period, and would primarily be used for soil compaction and dust control (Watearth, Inc., 2019a). During construction, water would be supplied by either RRG or RCSD and would be trucked in to the project site. Each of these potential providers have existing water rights in excess of the supply needed for construction activities. Therefore, no relocation or construction of new or expanded water facilities would be required and impacts would be less than significant.

Wastewater

The project would generate a minimal volume of wastewater. During construction activities, wastewater would be contained within portable toilet facilities and would be trucked offsite and disposed of at an approved disposal site. The Kern County Environmental Health Services Division is responsible for monitoring the use of portable toilet facilities, and a condition of approval would require the project proponent to provide documentation of a portable toilet pumping contract. Wastewater from the concrete batch plants and any other construction activities would be contained within portable facilities and disposed of at an approved site (Watearth, Inc., 2019a). No offsite sewage or disposal connections to a municipal sewer system exist or are proposed. Therefore, no relocation or construction of new or expanded wastewater or wastewater treatment facilities would be required and no impact would occur.

Stormwater Drainage

The project site and the surrounding area are presently drained by natural drainage channels, and sheet flow and does not rely on constructed stormwater drainage. Streams and drainage at the project site and in the surrounding area are ephemeral. The existing pattern and concentration of runoff could potentially be altered by project activities. Wherever feasible, at-grade crossing for access roads would be constructed to minimize impacts on existing drainage courses. The majority of the project development would be on gravel pads and dirt roadways using at-grade crossings, which may act similar to impervious surfaces and encourage sheet flow. The amount of new impervious surface would be less than 1 percent of the project area and would not substantially increase the rate or amount of surface runoff (Watearth, Inc., 2019b). These changes would not substantially increase the amount of storm water runoff from the project site. Further evaluation of the storm water drainage of the site can be found in Section 4.10, *Hydrology and Water Quality*, of this EIR.

In compliance with National Pollutant Discharge Elimination System (NPDES) General Construction Permit requirements, the proposed project would design and submit a site-specific Storm Water Pollution Prevention Plan (SWPPP) to minimize the discharge of wastewater during construction and a Water Quality Management Plan that include best management practices (BMPs) for runoff control.

Therefore, the proposed project is not expected to exceed the capacity of existing storm water drainage systems in the and relocation or construction of new or expanded stormwater drainage facilities would not be required. Impacts would be less than significant.

Electric Power

No electrical facilities are located on the project site as the project site is currently vacant. Electricity is not expected to be consumed in large quantity during project construction, as construction equipment and vehicles are not electric (diesel- or gas-powered). However, electricity is expected to be consumed from water use during construction. Electricity for construction would be provided by SCE and a hookup would be installed on the project site. Because construction of the project would not displace existing electrical facilities, and would tie into existing off-site facilities, relocation of electrical facilities would not be required. 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, the impact would be less than significant.

Natural Gas

No natural gas pipelines are located on the project site, nor would natural gas be required for project construction. Therefore, relocation or construction of new or expanded natural gas facilities would not be required and impacts would be less than significant.

Telecommunications

No existing telecommunication facilities are located onsite. 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 one of the existing substations associated with the proposed gen-tie options and to support project operations during monitoring. Fiber optic communication lines would follow the electrical collector system. The communication lines would link each solar inverter module to the appropriate substation and O&M building, which would house the supervisory control and data acquisition (SCADA) system. Hard-wired (land line) systems for operational use 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 on vacant land and, thus, construction of such facilities would not result in environmental impacts. Therefore, impacts would be less than significant.

Operation

Water

Water demand during operation of the proposed project would be up to 11 AFY of non-potable water for an operations and maintenance (O&M) facility, and approximately 10.8 AFY of non-potable water for ongoing dust control and other miscellaneous tasks, including fire suppression and panel washing. Total non-potable water demand during operation of the proposed project would be 21.8 AFY (Watearth, Inc., 2019a). Water would be supplied by either RRG or RCSD and would be trucked in to the project site. Each of these potential providers have existing water rights in excess of the supply needed for O&M activities. As mentioned above, bottled water would be provided for potable water demand. There would be 12 full-time employees at the O&M facility. Therefore, operation of the project would not require the relocation or construction of new or expanded water facilities such that a significant impact would occur and operational impacts would be less than significant.

Wastewater

The proposed project would require a septic system to be built within the O&M facility in order to accommodate wastewater disposal for the estimated up to 12 full-time employees that would be at the facility. This septic system would treat sewage and would provide limited recharge to the nearby aquifer. This septic system would be constructed in accordance with Kern County Department of Public Health requirements. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed. Therefore, no relocation or construction of new or expanded wastewater or wastewater treatment facilities would be required and no impact would occur.

Stormwater Drainage

The design of the proposed project is such that storm water would remain onsite and infiltration and runoff would occur similar to existing conditions. Under existing conditions, water moves through the project site via sheet flow at a low flow rate (Watearth, Inc., 2019b). To the maximum extent possible, at-grade crossings for unpaved access roads would be used to minimize impacts on existing drainage courses. At-grade crossings would allow the road surface to be essentially flush with the existing and surrounding ground, thereby not changing the existing drainage or affecting flow within the project site (Watearth, Inc., 2019b). Site development elements would be required to meet grading and site development requirements (Kern County Grading Code, Chapter 17.28), such as minimizing cuts and fill slopes to reduce risk for erosion, grading of buildings sites and pads to direct flows to stormwater facilities such as a retention basin, and permanent erosion control measures, as appropriate (Watearth, Inc., 2019b). The project applicant anticipates developing one or more retention basins on the project site to meet Kern County drainage requirements due to new impervious surfaces in areas with compacted soil such as roads, solar array areas, and O&M buildings (Watearth, Inc., 2019b). The amount of new impervious surface would be less than 1 percent of the project area and would not substantially increase the rate or amount of surface runoff (Watearth, Inc., 2019b). However, with implementation of Mitigation Measure MM 4.10-1, in Section 4.10, *Hydrology and Water Quality*, a drainage plan would be developed that would include measures to offset increases in stormwater runoff caused by the project. As noted above, there are no existing storm water drainage systems in the vicinity of the project; thus the proposed project would not exceed the capacity of an existing storm water drainage system. Therefore, relocation or construction of new or expanded

stormwater drainage facilities off-site would not be required during operation. Impacts would be less than significant with implementation of Mitigation Measure MM 4.10-1.

Electric Power

Project operation would generate 128 MW of renewable electrical energy that would help to reduce or offset electricity on the state-wide utility grid. The existing infrastructure (associated with the gen-tie options) has adequate capacity to accept the additional 128 MW that would be generated by the project without modifications. Operational energy consumption in the form of electricity would occur as a result of solar panel maintenance and the Operation and Maintenance Building. However, electricity use would be offset by the power produced by the solar panels. In addition, the use of transportation fuel would be minimal and are predominately associated with worker commute trips and occasional panel washing activities. As described in Section 4.6, *Energy*, of this DEIR, operation of the project would consume 47,626 kWh of electricity, which is approximately 0.00006 percent of the total electricity consumption in the SCE service area in 2018. Total annual electricity generation is estimated to be 393,000 MWh, which more than offsets the energy consumed annually to operate the project. 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 and battery storage station 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 one of the existing substations associated with the proposed project 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

Implementation of Mitigation Measure MM 4.10-1 would be required.

State Lands Commission

Implementation of Mitigation Measure MM 4.10-1 would be required.

Level of Significance after Mitigation**Kern County**

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant.

Impact 4.17-2: The project would result in a determination by the waste water treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

As previously mentioned, the project would generate a minimal volume of wastewater. During construction activities, wastewater would be contained within portable toilet facilities and would be trucked offsite and disposed of at an approved disposal site. Wastewater from the concrete batch plants and any other construction activities would be contained within portable facilities and disposed of at an approved site (Watearth, Inc., 2019a).

During operation, the proposed project would require a septic system to be built within the O&M facility in order to provide non-potable water for the estimated 12 full-time employees that would be at the facility. This septic system would treat sewage and would provide limited recharge to the nearby aquifer. This septic system would be constructed in accordance with Kern County Department of Public Health requirements. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed. As such, no waste water treatment provider would be needed for the proposed project. The impact would be less than significant.

Mitigation Measures**Kern County**

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance**Kern County**

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Impact 4.17-3: The project would not comply with Federal, State, and Local management and reduction statutes and regulations related to solid waste.

The project would generate solid waste during construction and operation. Common construction waste may include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. AB 341 requires Kern County to attain a waste diversion goals of 75 percent by 2020 through reduction, recycling, or composting. In addition, as part of compliance with CALGreen requirements, Kern County implements the following construction waste diversion requirements:

Submittal of a Construction Waste Management Plan;

Recycle and/or reuse a minimum 65 percent C&D waste; and

Recycle or reuse 100 percent of tree stumps, rocks, and associated vegetation and soils resulting from land clearing (Kern County, 2018).

Furthermore, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the project design. Implementation of Mitigation Measure MM 4.17-1 would ensure compliance with waste diversion and recycling requirements by requiring recycling during construction, operation, and decommissioning of the project. The 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.

Mitigation Measures**Kern County**

MM 4.17-1: During construction and operation, debris and waste generated shall be recycled to the extent feasible.

1. An onsite Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Maintenance, Trash Abatement and Pest Management Program.
2. 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.
3. The onsite Recycling Coordinator shall also be responsible for ensuring wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal.
4. Contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits.
5. 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.

State Lands Commission

MM 4.17-1: During construction and operation, debris and waste generated shall be recycled to the extent feasible.

1. An onsite Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Maintenance, Trash Abatement and Pest Management Program.
2. 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.
3. The onsite Recycling Coordinator shall also be responsible for ensuring wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal.
4. Contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits.
5. The project proponent/operator shall provide a storage area for recyclable materials within the fenced project area that is clearly identified for recycling. This area shall be maintained on the site during construction, operations and decommissioning. A site plan showing the recycling storage area shall be submitted prior to the issuance of any grading or building permit for the site.

Level of Significance after Mitigation**Kern County**

With implementation of Mitigation Measure MM 4.17-1, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.17-1, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for cumulative analysis of impacts on water supply and wastewater are the related projects that would impact the Antelope Valley Groundwater Basin. 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 (listed in Table 3-4, *Cumulative Projects List*, in Chapter 3, *Project Description*) would result in a significant cumulative effect. Physical impacts to public services, utilities, and service systems are usually associated with population in-migration and growth in an area, which increase the demand for a particular service, leading to the need for expanded or new facilities. There is little to no growth associated with the proposed project and nearby other solar and wind energy projects, thereby limiting the potential to contribute to demand for a particular service.

As described above, the proposed project would place few demands on water, wastewater, stormwater drainage, solid waste disposal (during construction and operation), electricity, natural gas, and telecommunications.

Water

Several utility-scale renewable energy projects are proposed in the Antelope Valley that would impact the existing water supply, which is derived almost entirely from the Antelope Valley Groundwater Basin. The water-intensive use period for renewable energy projects is typically the construction phase. Given the limited water supply in the area, other projects are expected to either rely on new or existing wells or truck in their water supply (similar to the project). In response to the recent adjudication of the Antelope Valley Groundwater Basin, all projects relying on water from Basin would be required to obtain water from water purveyors that have existing water rights within the Basin, or would be required to apply for new water rights from the Antelope Valley Watermaster. New water rights may or may not be granted. Any projects that cannot secure a water supply would not move forward to construction or operation. Therefore, cumulative impacts related to water supply and facilities would be less than significant.

Wastewater

The project is located in an area with no wastewater treatment provider or infrastructure and is not expected to generate a significant amount of wastewater. Wastewater produced during construction would be collected in portable toilet facilities and disposed of at an approved facility. A septic system would be built at the O&M facility to supply non-potable water for the 12 full-time staff that would be at the facility. Other planned renewable energy projects may or may not propose an O&M building that would require the installation of a septic system. Therefore, the proposed project would not have the potential, when combined with impacts from past, present, or reasonably foreseeable projects, to result in a cumulative impact to a regional wastewater treatment facility or the capacity of said facilities.

Stormwater Drainage

As described above, there are no constructed stormwater drainage systems present onsite and stormwater on the project site either percolates onsite or drains offsite via sheetflow. The existing pattern and concentration of runoff could potentially be altered by project activities, such as the grading of access roads. To the maximum extent possible, at-grade crossings for unpaved access roads would be used to minimize impacts on existing drainage courses. At-grade crossings would allow the road surface to be essentially flush with the existing and surrounding ground, thereby not changing the existing drainage or affecting flow within the project site (Watearth, Inc., 2019b). In compliance with National Discharge Elimination System (NPDES) General Construction Permit requirements, the proposed project would design and submit a site-specific SWPPP to minimize the discharge of wastewater during construction. In accordance with Mitigation Measure MM 4.10-1, the proposed project would implement a drainage plan that would incorporate measures to offset increases in stormwater flows caused by the project. Other projects in the vicinity would be required to offset substantial increases in stormwater as well per County requirements and would also be required to implement best management practices (BMPs), as well as comply with the NPDES General Construction Permit and their respective SWPPP as applicable.

Cumulative projects would also be required to prepare a drainage plan that would help avoid substantial increases of stormwater generated onsite by their respective ground disturbance. Depending on the findings

of their respective drainage plans, these projects may need to construct stormwater control structures onsite to reduce the potential for increased stormwater runoff. Therefore, the project would not substantially contribute to a cumulatively impact on stormwater drainage facilities.

Solid Waste

The proposed project would generate a minimal amount of waste and is not expected to significantly impact Kern County landfills. Although the Tehachapi Landfill is expected to cease operation in 2020, 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 Measure MM 4.17-1 requires that debris and waste generated shall be recycled to the extent feasible, and an onsite recycling coordinator be designated by the project proponent to facilitate recycling efforts. With implementation of MM 4.17-1, the project's incremental contribution would be less than cumulatively considerable. Furthermore, other cumulative projects would also be required to comply with State and local waste reduction policies.

Electricity

There are no existing electrical facilities on site. The proposed project would include construction of a collector line that would tie into existing facilities and provide 128 MW of renewable electrical energy to the state-wide utility grid. Electricity demand of the project would be minimal and would be provided by the onsite PV system. This project in combination with other cumulative solar projects in East Kern County would help to reduce or offset electricity on the state-wide utility grid and therefore provide a beneficial cumulative impact on electrical demand and facilities.

Natural Gas

There are no existing natural gas facilities on the project site nor would natural gas be required for construction and operation of the project. Therefore, the project would not contribute to a cumulatively considerable impact related to natural gas demand and facilities.

Telecommunications

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.

Conclusion

In conclusion, the proposed project would not have a significant impact on public utilities. 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 4.10-1 and MM 4.17-1. Furthermore, the proposed project would result in a beneficial impact on utility services and

offset future stress on energy service providers as energy demand grows in Kern County and Southern California.

Mitigation Measures

Kern County

Implementation of Mitigation Measures MM 4.10-1 and MM 4.17-1 would be required.

State Lands Commission

Implementation of Mitigation Measures MM 4.10-1 and MM 4.17-1 would be required.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measures MM 4.10-1 and MM 4.17-1, cumulative impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measures MM 4.10-1 and MM 4.17-1, cumulative impacts would be less than significant.

4.18.1 Introduction

The following section discusses potential impacts related to wildland wildfire impacts. The analysis in this section is based on the project plans, California Department of Forestry and Fire Protection (CAL FIRE) and Kern County Fire Hazards Severity Zone Maps.

4.18.2 Environmental Setting

Site Characteristics and Fire Environment

The California Department of Forestry and Fire Protection (CAL FIRE) maps Fire Hazard Severity Zones (FHSZs), based on factors such fuel, slope, and fire weather to identify the degree of fire hazard throughout California (i.e., 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 therefore are of greater concern. According to the CAL FIRE, Kern County Fire Hazards Severity Zone Maps for the Local Responsible Areas, the project site is classified as Local Responsibility Area (LRA) and Federal Responsibility Area (FRA) Moderate (see **Figure 4.18-1**, *Fire Hazard Severity Zones for Local Responsibility Areas*). The project site is outside of areas identified by CAL FIRE as having substantial or very high risk. Moderate zones are typically wildland supporting areas of low fire frequency and relatively modest fire behavior. The project site is not within a State Responsibility Area (SRA). The project site primarily consists of sparse desert vegetation. Existing development in the project vicinity includes rural access roads, scattered rural residences, producing and non-producing water wells, off-highway vehicle use, cattle ranching and maintenance facilities, mining, wind and solar energy projects, and meteorological towers. The area to the northwest of the project site is categorized as SRA Moderate (see **Figure 4.18-2**, *Fire Hazard 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 that shows fires back through 2013 (CAL FIRE 2019a) and CAL FIRE's Fire and Resource Assessment Program (FRAP) Fire Perimeters: Wildfires 1950-2018 map (CAL FIRE 2019b). Based on a review of these maps, no fires in the recorded history have burned across the project site.

Vegetation (Fuels)

A total of 105 plant species were identified on or adjacent to the project site during the biological surveys conducted by ICF in 2018. Six vegetation communities and land cover types occur within or adjacent to the project site (ICF 2019a).



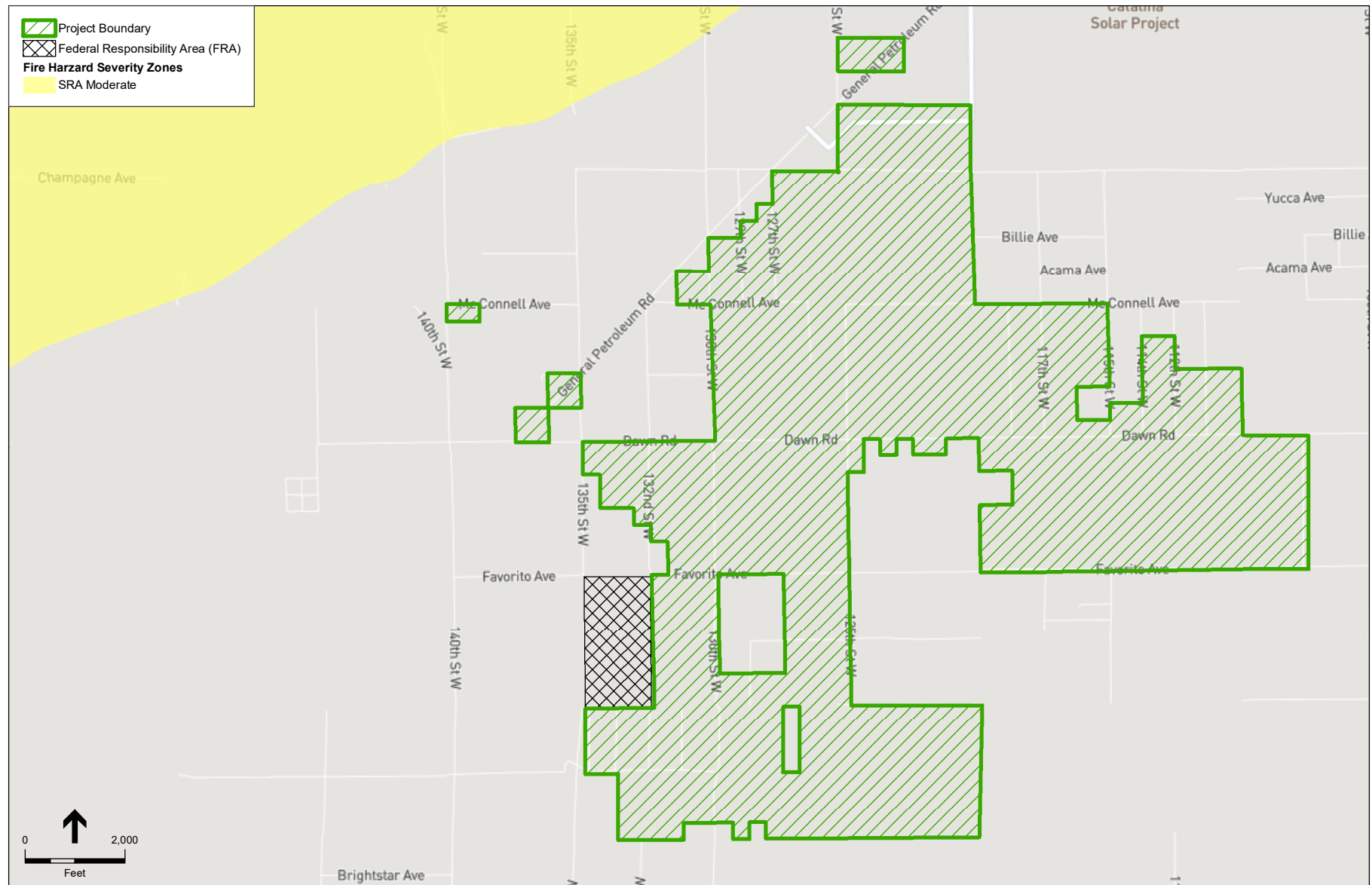


FIGURE 4.18-2: FIRE HAZARD SEVERITY ZONES FOR STATE RESPONSIBILITY AREAS

A description of the vegetation communities and land cover types are provided below. Acreages of vegetation communities and land cover types are provided in **Table 4.18-1, *Vegetation Community or Land Cover Type on and adjacent to the Project Site***. The acreage of these areas exceed the proposed project acreage because they include adjacent lands.

TABLE 4.18-1: VEGETATION COMMUNITY OR LAND COVER TYPE ON AND ADJACENT TO THE PROJECT SITE

Vegetation Community or Land Cover Type	Acreage
Mojave Creosote Bush Scrub with Joshua Trees	3,233.10
Mojave Creosote Bush Scrub with Joshua Trees – Disturbed	671.29
Rabbitbush Scrub	2.78
Rabbitbush Scrub – Disturbed	14.11
Desert Saltbush Scrub	344.30
Desert Saltbush Scrub – Disturbed	33.23
Field/Pasture (adjacent lands only)	4.47
Disturbed Habitat – Bare Ground	15.15
Disturbed Habitat – Ruderal	96.31
Urban/Developed	586.45

4.18.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

2016 California Fire Code

The 2016 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes regulations to safeguard against the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. Chapter 6 (Building Services and Systems) of the Code focuses on building systems and services as they relate to potential safety hazards and when and how they should be installed. Building services and systems are addressed 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.

2016 California Building Code, Chapter 7A

Chapter 7 of the 2016 California Building Code details the materials, systems, and/or assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface Fire Area. A Wildland-Urban Interface Area is defined in Section 702A as a geographical area identified by the state as a “Fire Hazard Severity Zone” in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. The building code details the materials, systems and assemblies used for structural fire resistance and fire-resistance-rated construction separation of adjacent spaces to safeguard against the spread of fire and smoke within a building and the spread of fire to or from buildings.

Public Resources Code 4291–4299

California Public Resources Code Section 4291-4299 et seq. requires that brush, flammable vegetation, or combustible growth within 100 feet of buildings be maintained. Vegetation that is more than 30 feet from the building, less than 18 inches high, and important for soil stability, may be maintained; as may single specimens of trees or other vegetation that is maintained so as to manage fuels and not form a means of rapid fire transmission from other nearby vegetation to a structure. Additionally, the Public Resources Code outlines infraction fees, certification, and compliance procedures applicable with state and local building standards, including those described in subdivision (b) of Section 51189 of the Government Code.

Local

Kern County General Plan

Chapter 4: Safety Element

4.6 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.

Willow Springs Specific Plan

The southern portion of the project is subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan, drafted in 1992 and adopted in April 2008, contains goals, policies, and standards that are compatible with those in the Kern County General Plan, but are unique to the specific needs of the Willow Springs Area. The wildfire-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County Department of Planning and Development Services 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

General Provision

- (1) Fire flow provisions and on-site fire protection standards (i.e., sprinklers/water storage) shall be in compliance with minimum standards provided by the Kern County Fire Department.

Kern County Fire Code

Chapter 17.32 of the County Municipal Code details the Kern County Fire Code, which is an adoption of the 2016 California Fire Code with some amendments.

Kern County Fire Department Wildland Fire Management Plan

The KCFD Wildland Fire Management Plan adopted in 2009 assesses the wildland fire situation throughout the SRA within the County. The Plan includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan systematically assesses the existing levels of wildland protection services and identifies high-risk and high-value areas, which are potential locations for costly and damaging wildfires. The plan also ranks the areas in terms of priority needs and prescribes what can be done to reduce future costs and losses. The project site is located within a moderate fire hazard severity zone (KCFD, 2009).

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, conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of adequate means of egress, and providing for the issuance of permits and collection of fees therefore (Kern County, 2017).

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan, adopted in March of 2018 is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2017, included completion of a number of fuel reduction projects, hosted three wildfire safety expos in battalions 1, 5, and 7, and the award of three SRA fuel reduction grants for a total of \$500,000. The plan gives an overview of KCFD Battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 1 (Tehachapi) 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 Kern County Fire Department Fire Prevention Division adopted Standard No. 503-507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019. The standard is implemented in accordance with the 2016 CFC and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. The standard outlines installation requirements for photovoltaic ground-mounted and roof-mounted solar panels. The proposed project would mount systems for the modules on steel support posts that would be pile driven into the ground and would therefore comply with the ground mounted requirements of this fire prevention standard. Ground mounted solar panel requirements of this standard include water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD, 2019c).

4.18.4 Impacts and Mitigation Measures

Methodology

Wildfire impacts are considered on the basis of: 1) offsite wildland fires that could result due to the proposed project, and 2) onsite generated combustion that could affect surrounding areas. The proposed project's potential impacts associated with wildfires have been evaluated using a variety of resources, including CAL FIRE maps showing FHSZs, FRAP, and fire history, vegetation data from the Biological Resources Technical Report (ICF 2019a), Cultural Resources Survey Report (ICF 2019b), Preliminary Hydrology Report (WaterEarth, Inc. 2019), project location maps, and project characteristics. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the CEQA *Guidelines*, to determine if a project could potentially have a significant impact with respect to Wildfires.

A project would have a significant impact with respect to wildfires if it would be located in or near state responsibility areas or lands classified as very high fire hazard severity zones, and if the project would:

- a. Substantially impair an adopted emergency response plan or emergency evacuation plan;
- b. Due to slope, prevailing winds, 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.

Project Impacts

Impact 4.18-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.

The project site is not classified as being within a high fire hazard severity zone and is not anticipated to physically impede the existing emergency response plans, emergency vehicle access, or personnel access to the site. The site is located in a rural, sparsely developed area with limited population. The project site is not located along an identified emergency evacuation route and is not identified in any adopted emergency evacuation plan. Also in compliance with applicable Fire Code and Building Code requirements, construction managers and personnel would be trained in fire prevention and emergency response. Fire suppression equipment specific to construction would be maintained on site. Additionally, project construction would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. Therefore, the project would not conflict with the implementation of, or physical interference with, an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Impact 4.18-2: The project would, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Slope and wind speed can influence the spread of fires. Upslope topography eventually increases the spread rate of the fire in all fuel beds over flat conditions (International Journal of Wildland Fire 2002, 2010). As described in Chapter 3, Project Description, elevations across the project site range from approximately 3,000 feet above mean sea level (msl) in the northwest portion of the site to approximately 2,800 feet above msl in the southeast portion of the site; thus, the site's topography has a gentle slope to the southeast. While the proposed project would introduce temporary onsite employees and up to 8 to 12 full-time or part-time employees, it would not introduce any permanent occupants that could be exposed to pollutant concentrations from wildfire. Furthermore, the project site is classified as a LRA and FRA Moderate and is outside of areas identified by CAL FIRE as having substantial or very high risk. Thus, the potential for wildfire on the project site is considered low. Additionally, project construction would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. Given the moderate potential for fire and the lack of permanent occupants, the project is not anticipated to expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire due to slope, prevailing winds and other factors. Impacts would be less than significant.

Mitigation Measures

Kern County

No mitigation measures are required.

State Lands Commission

No mitigation measures are required.

Level of Significance

Kern County

Impacts would be less than significant.

State Lands Commission

Impacts would be less than significant.

Impact 4.18-3: The project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

The proposed project includes several options for gen-tie routes as described in Chapter 3, *Project Description*, of this EIR, although only one route would be constructed. The selected gen-tie would be constructed within its 150-foot-wide corridor and would consist of the utility poles, cabling, trenches, and a corresponding dirt maintenance road. A buried 34.5 kV collector system would connect to the inverters of each array. Power generated on the project site would be collected at an onsite substation and converted from 34.5 kV to 220 kV of power for transmission in an overhead or underground line into the SCE transmission system and interconnection location. The combined energy of the solar field would ultimately transfer to the SCE Whirlwind Substation, and join via a ring bus assembly with other projects for ultimate delivery of electrical power and communications. All utility poles, cabling, trenches, and corresponding dirt maintenance road associated with the gen-tie line would be erected inside the limits of the 150-foot-wide corridor, which would be maintained during operations and therefore, would not exacerbate fire risk that could result in temporary or ongoing impacts to the environment.

Additionally, new project site access roads would be installed between the southern array area and the northern array area of the project, as well as a 20-foot-wide internal maintenance roads and a minimum 20-foot-wide perimeter road around the solar arrays, which would be cleared and compacted for equipment and emergency vehicle travel and access to the solar blocks. These project site access roads would remain in place for ongoing operations and maintenance activities after construction is completed. Further, the proposed project could also require improved unpaved roads to serve as access roads from the existing road network to the project. All new roads would comply with development requirements for emergency access, and therefore, would not exacerbate fire risk that could result in temporary or ongoing impacts to the environment.

Most fires in the desert are caused by lightning or vehicles. The installation of the gen-tie and electrical collector system and internal/perimeter dirt maintenance roads would not be placed within a high fire hazard zone, and the vegetation would be cleared; therefore, the proposed project would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Additionally, as discussed in Section 4.14, *Public Services*, the project proponent/operator shall develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions consistent with the 2016 California Fire Code and Kern County Fire Code for use during construction, operation and decommissioning, per implementation of Mitigation Measure MM 4.14-1. Implementation of this plan would ensure that potential impacts related to installation or maintenance of associated infrastructure is reduced and, thus, impacts would be less than significant.

Mitigation Measures

Kern County

Implement Mitigation Measure MM 4.14-1.

State Lands Commission

Implement Mitigation Measure MM 4.14-1.

Level of Significance after Mitigation**Kern County**

With implementation of Mitigation Measure MM 4.14-1, impacts will be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.14-1, impacts will be less than significant.

Impact 4.18-4: The project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability, or drainage changes.

Development of the proposed project would alter existing on-site drainage patterns and flowpaths compared to existing conditions and include the introduction of new impervious surfaces. The project would require implementation of a Stormwater Pollution Prevention Plan (SWPPP), which would include erosion and sediment control BMPs during construction, thereby reducing the potential of erosion and siltation during construction and would control potential flooding events that could occur during construction. Additionally, the proposed new impervious surfaces would generate additional stormwater runoff onsite, albeit in minor quantities compared to existing conditions. However, this could exacerbate potential erosion and sedimentation onsite or downstream. As discussed in Section 4.10, *Hydrology and Water Quality*, Kern County requires development of a drainage plan with the site development grading permit, which will manage stormwater and reduce the risk for offsite impacts due to erosion and impacts on water quality, as implemented by Mitigation Measure MM 4.10-1. Design measures are intended to minimize or manage flow concentration and changes in flow depth or velocity so as to minimize erosion, sedimentation, and flooding on or off site. One element of the drainage plan is a retention basin to manage facility stormwater. The majority of the project development would be on mowed lands; however, in some limited areas gravel pads and compacted dirt roadways would be used and may act similar to impervious surfaces and encourage sheet flow. The amount of new impervious surface would be less than 1 percent of the project area and would not substantially increase the rate or amount of surface runoff. The project proponent anticipates constructing one or more retention basins to manage stormwater due to new impervious surface in areas with compacted soil such as roads, solar array areas, battery storage containers, the substation and the O&M building. Implementation of Mitigation Measure MM 4.10-1 would minimize potential increases in runoff and ensure that the retention basins and other stormwater management features are implemented to minimize erosion and sedimentation to less than significant.

A majority of the offsite flow that enters the project site would continue to sheet flow from the northwest to the southeast with no impacts from development of the project. Furthermore, the soil types onsite have high infiltration rates and low runoff potential when thoroughly wet.

The project site is located on a gentle south-facing slope below the Tehachapi Mountains on an alluvial fan. Based on the fire history immediately surrounding the site, moderate zone designation, soil types, and surface hydrology, there is a low potential for the project site to be at risk of post-fire instability or drainage changes.

While the project would introduce new structures to the project site, the structures would not be placed in a highly flammable landscape. Furthermore, with the implementation of Mitigation Measure 4.10-1, any potential impacts from runoff and erosion would be minimized. Therefore, the project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Impacts would be less than significant.

Mitigation Measures

Kern County

Implement Mitigation Measure MM 4.10-1.

State Lands Commission

Implement Mitigation Measure MM 4.10-1.

Level of Significance after Mitigation

Kern County

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant.

State Lands Commission

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for wildfire impacts is considered the Antelope Valley. This geographic scope was selected because the land within the region possesses relatively similar uses, including sparse desert vegetation, rural access roads, scattered rural residences, producing and non-producing water wells, cattle ranching and maintenance facilities, mining, wind and solar energy uses. As shown in Chapter 3, *Project Description*, Table 3-4, *Cumulative Projects List*, there are approximately 56 solar and non-solar projects proposed or approved throughout the Antelope Valley in Kern County and in the desert portion of Kern County outside the Antelope Valley. Of the approximately 56 total projects in Kern County, 43 would be located within 6 miles of the project site and 13 would be located within 1 mile of the project site.

With regard to impairment of an adopted emergency response plan or emergency evacuation plan, all of the related projects would be required to provide adequate emergency access in accordance with County Fire Code and Building Code requirements and prior to the issuance of a building permit. As previously mentioned, the project site is not classified as being within a high fire hazard severity zone, is located in rural, sparsely developed areas with limited population, is not located along an identified emergency evacuation route or within an adopted emergency evacuation plan, and would be in compliance with Fire Code and Building Code requirements including fire prevention and emergency response training for site

personnel. As concluded in the discussion of project impacts above, the project would have a less than significant impact related to impairment of an adopted emergency response or evacuation plan. Similar to the project, related projects would be required to determine whether they are classified as being within a high fire hazard severity zone, identified within an emergency evacuation route or within an adopted emergency evacuation plan, and whether they meet the requirements of applicable Fire Code and Building Code. 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 to an adopted emergency response plan or emergency evacuation plan and, thus, would result in a significant and unavoidable cumulative impact.

With regard to cumulative impacts related to exposure of project occupants to pollutant concentrations from a wildfire, while the proposed project is not within SRAs and/or High Fire Hazard Severity Zones, some related projects in the area may be. Similar to the proposed project, all related projects would be required to implement building and landscape design features in accordance with the Fire Code and Building Code to reduce wildfire risk and exposure of occupants to pollutant concentrations from a wildfire. Adherence to the Fire Code and Building Code requirements would minimize potential impacts related to exposure to and the uncontrolled spread of a wildfire. As concluded in the discussion of project impacts above, the project would have a less-than-significant impact related to exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. 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 exposure of project occupants to pollutant concentrations from a wildfire and, thus, would result in a significant and unavoidable cumulative impact.

Related projects may require associated infrastructure such as roads, fuel breaks, and power lines that could exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. These projects would be reviewed by Kern County for land use and zoning consistency and compliance with applicable requirements, and potentially analyzed for environmental impacts. The placement of infrastructure would adhere to all fire codes to minimize the potential fire risk such as siting and design. The proposed project would involve the installation and maintenance of a gen-tie line and access roads to support project construction and ongoing maintenance and operation. While the potential for fire is considered moderate, Mitigation Measure 4.14-1 would be implemented to ensure that a Fire Safety Plan is prepared that contains notification procedures and emergency fire precautions consistent with the 2016 California Fire Code and Kern County Fire Code for use during construction, operation and decommissioning. 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 the installation or maintenance of associated infrastructure and, thus, would result in a significant and unavoidable cumulative impact.

Some related projects could be proposed in areas that could expose people or structures to risks from downslope or downstream flooding or landslides as a result of post-fire instability. Based on the recent fire events in California, all projects would be required to adhere to Kern County's zoning and land use designations and codes, State and local fire codes, and regulations associated with drainage and site stability. These regulations, policies, and codes would reduce the potential for exposing people or structures to risks from downslope or downstream flooding or landslides as a result of post-fire instability. Each project would require site-specific hydrology and drainage studies for effective drainage design. As concluded in the discussion of project impacts above, with the implementation of Mitigation Measure MM 4.10-1, the project would not expose people or structures to significant risks due to post-fire slope instability or drainage changes and would have a less-than-significant impact. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects have the potential to result in a

cumulative impact related to exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

Mitigation Measures

Kern County

Implement Mitigation Measures MM 4.10-1 and MM 4.14-1.

State Lands Commission

Implement Mitigation Measures MM 4.10-1 and MM 4.14-1.

Level of Significance after Mitigation

Kern County

Even with implementation of Mitigation Measures MM 4.10-1 and MM 4.14-1, impacts would remain significant and unavoidable.

State Lands Commission

Even with implementation of Mitigation Measures MM 4.10-1 and MM 4.14-1, impacts would remain significant and unavoidable.

Chapter 5

Consequences of Project Implementation

5.1 Environmental Effects Found to Be Less than Significant

Section 15128 of the CEQA *Guidelines* requires that an EIR “contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR.”

Kern County has engaged the public in the scoping of the environmental document. Comments received during scoping have been considered in the process of identifying issue areas that should receive attention in the EIR. The EIR’s contents were established based on the Notice of Preparation/Initial Study (NOP/IS) located in Appendix A of this EIR that was prepared in accordance with the CEQA *Guidelines* and in consideration of public and agency input received during the scoping process.

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

Recreation

The NOP/IS determined that there are no mineral resources of regional or statewide significance or mining districts located within the project area. Kern County contains numerous mining operations that extract a variety of materials, including sand and gravel, stone, gold, dimensional stone, limestone, clay, shale, gypsum, pumice, decorative rock, silica, and specialty sand. However, due to the fact that the project is not located near known mineral resources, it would have no significant impact on future mineral development. Additionally, based on a review of California Geological Survey publications, portions of Kern County are rich in mineral deposits. Although some properties in the areas of the project site support aggregate mining operations (i.e., Golden Queen Mine, Bobtail Mines, Middle Butte Mines), neither the Kern County General Plan nor the Willow Springs Specific Plan designate the site for mineral and petroleum resources activities (Map Code 8.4). Therefore, installation of the arrays would not preclude future on-site mineral resources development, nor would the project result in the loss of a locally important mineral resources recovery site. Therefore, the project would have no significant impact on future mineral development.

The NOP/IS determined that the proposed project would include up to 8 to 12 part-time and or full-time permanent employees at the operations and maintenance (O&M) building. Maintenance personnel would be expected to be drawn from the local labor force and would commute from their permanent residences to the project site. However, even if the maintenance employees were hired from out of the area and had to relocate to eastern Kern County, the minor addition of persons to this area would not result in a substantial increase in population in the area. Consequently, this would represent a minor increase in the number of users at local recreational facilities. As a result, the project would not directly or indirectly induce the development of any new housing or businesses, and there would not be a detectable increase in the use of parks or other recreational facilities. No impacts to recreation would occur and no further analysis is warranted.

For all other resource areas, this EIR contains a comprehensive analysis of potential environmental impacts.

After further study and environmental review, as provided in this EIR, it was determined that project-level impacts in the following areas would be less than significant or could be reduced to less-than-significant levels with mitigation measures; however, these resource areas are evaluated in this EIR for their potential significance:

Agriculture and Forest Resources;	Hydrology and Water Quality;
Cultural Resources;	Land Use and Planning;
Energy;	Population and Housing;
Geology and Soils;	Public Services;
Greenhouse Gas Emissions;	Transportation and Traffic;
Hazards and Hazardous Materials;	Tribal Cultural Resources; and
	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 cumulative impacts in the following areas would be significant and unavoidable for the project, even with the incorporation of reasonable mitigation measures, which would attempt to reduce impacts to the greatest extent feasible.

Impacts in the following areas would be significant and unavoidable, even with the incorporation of feasible mitigation measures that attempt to reduce impacts to the extent feasible:

TABLE 5-1: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROJECT

Resources	Project Impacts	Cumulative Impacts
Aesthetics	Although implementation of mitigation measures would reduce the visual changes experienced at individual key observation point locations, there are no mitigation measures that would allow for the preservation of the existing visual character of the area; and the resultant visual impact is considered significant and unavoidable .	The project would have cumulatively significant and unavoidable aesthetic impacts related to visual character after implementation of mitigation. Although implementation of mitigation measures would reduce the adverse visual changes experienced at individual key observation point locations, there are no mitigation measures that would allow for the preservation of the existing visual character of the area. The conversion of 2,285 acres of privately owned land and 160 acres of land owned by the California State Lands Commission to a solar energy production facility is considered a significant and unavoidable cumulative impact.

TABLE 5-1: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROJECT

Resources	Project Impacts	Cumulative Impacts
Air Quality	It is anticipated that there would be times during the project's construction and decommissioning activities that would result in significant temporary levels of NO _x and PM ₁₀ emissions that would conflict with regulations or delay the attainment of applicable EKAPCD standards, even with adherence to EKAPCD's Ozone Attainment Plan during project operation and implementation of mitigation measures. Because the project would result in perceptible temporary levels of NO _x and PM ₁₀ emissions during construction and decommissioning activities, these temporary impacts would be considered significant and unavoidable . Operational impacts are considered less than significant.	There are several alternative energy (wind and solar) projects being developed within the Eastern Kern geographical area. From a site specific project level operational review, these projects are required to comply with all rules and regulations of the Eastern Kern Air Pollution Control District. Impacts associated with operation of the proposed facilities are generally considered less than significant. However, given the total number of development proposals within the region, along with the temporary levels of NO _x and PM ₁₀ emissions generated during construction and decommissioning activities, cumulative temporary construction and decommissioning impacts are considered significant and unavoidable .
Biological Resources	There would be no significant and unavoidable project impacts.	As development increases within Kern County, impacts to biological resources within the region are increasing on a cumulative level. When considered with other past, present, and probable future projects, which encompass Antelope Valley in the western Mojave Desert, the project would have an incremental contribution to a cumulative loss of foraging habitat for special-status species, as well as for nesting habitat for special-status bird species, even with the implementation of project-specific mitigation measures. The loss of such habitat would result in a significant and unavoidable cumulative impact.
Noise	It is anticipated that there would be times during the project's construction and decommissioning activities that would result in a construction related noise impacts on adjacent sensitive receptors. Implementation of mitigation would reduce impacts to the extent feasible during construction activities. However, despite the implementation of mitigation, construction activities could generate noise greater than the standard for the Kern County General Plan and for short period of times, resulting in temporary construction impacts that would be considered significant and unavoidable .	The cumulative projects nearest to the project site are all either adjacent or close to the proposed project. Therefore, should construction of the proposed project and any of the cumulative projects occur currently, cumulative construction noise impacts would occur. As construction of the proposed project would result in significant and unavoidable impacts, the construction of the proposed project concurrently with the construction of adjacent and nearby cumulative projects, if it were to occur, would result in a cumulatively considerable contribution to construction noise impacts in the vicinity of the project. Therefore, the cumulative impact would be significant and unavoidable .
Wildfire	There would be no significant and unavoidable project impacts.	Despite implementation of mitigation, given the location in a rural area, the project and related projects have the potential to result in a cumulative impact related to the installation or maintenance of associated infrastructure and, thus, would result in a significant and unavoidable cumulative impact.

5.3 Irreversible Impacts

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

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

5.4 Growth Inducement

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

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

Growth inducement can be a result of new development that requires an increase in employment levels, removes barriers to development, or provides resources that lead to secondary growth. With respect to employment, the project would not induce substantial growth. Up to 8 to 12 full-time or part-time employees would be located at the O&M building. It is anticipated that the construction workforce would commute to the site each day from local communities, and the majority would likely come from the existing labor pool as construction workers travel from site to site as needed. Construction staff not drawn from the local labor pool would stay in any of the local hotels in Willow Springs, Rosamond or other local communities.

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

In *Kerncrest Audubon Society v. Los Angeles Department of Water and Power*, the analysis of growth-inducing effects contained in the EIR for the Pine Tree Wind Development Project was challenged. Plaintiffs argued that the discussion was too cursory to provide adequate information about how additional electricity generated by the project would sustain further growth in the Los Angeles area. The court held that the additional electricity that the project would produce was intended to meet the current forecast of

growth in the Los Angeles area. As such, the wind development project would not cause growth, and so it was not reasonable to require a detailed analysis of growth-inducing impacts. In addition, EIRs for similar energy projects have contained similarly detailed analyses of growth-inducing impacts. Their conclusions that increasing the energy supply would not create growth has been upheld, because: (1) the additional energy would be used to ease the burdens of meeting existing energy demands within and beyond the area of the project; (2) the energy would be used to support already-projected growth; or (3) the factors affecting growth are so multifarious that any potential connection between additional energy production and growth would necessarily be too speculative and tenuous to merit extensive analysis. Thus, as has been upheld in the courts, this level of analysis provided in this EIR is adequate to inform the public and decision makers of the growth-inducing impacts of the project.

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6.1 Introduction

The California Environmental Quality Act (CEQA) requires that an EIR describe a range of reasonable alternatives to the project or to the location of the project that could feasibly avoid or lessen any significant environmental impacts of the project while attaining most of the project's basic objectives. An EIR also must compare and evaluate the environmental effects and comparative merits of the alternatives. This chapter describes alternatives considered but eliminated from further consideration (including the reasons for elimination), and compares the environmental impacts of several alternatives retained with those of the project.

The following are key provisions of the CEQA *Guidelines* (Section 15126.6):

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

The No Project Alternative shall be evaluated, along with its impacts. The no-project analysis shall discuss the existing conditions at the time the notice of preparation 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 have significant adverse effects on:

Aesthetics (project and cumulative)

Air quality (project and cumulative)

Biological resources (cumulative only)

Noise (project and cumulative)

Wildfire (cumulative only)

Even with the mitigation measures described in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this EIR, impacts in these issue areas would be significant and unavoidable. Therefore, per the *CEQA Guidelines*, this section discusses alternatives that are capable of avoiding or substantially lessening effects on these resources. The significant and unavoidable impacts of the proposed project are discussed below.

Aesthetics

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 and battery storage 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 to more industrial in nature; 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 a natural screening of project components, and the proposed project would incorporate a 100-foot building set-back for solar arrays, the O&M building, and other project features from the project property lines in areas directly adjacent to residential parcels. Implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3 would help 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. Nevertheless, even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3, project level impacts to visual character and quality would remain significant and unavoidable.

Additionally, 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. Therefore, even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-6, the project's contribution to significant impacts associated with visual character in the Antelope Valley would be cumulatively significant and unavoidable.

Air Quality

With project implementation, long-term increases in operational emissions of primary concern within the region (i.e., ROG, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}) would be minimal and would not exceed applicable significance thresholds. However, construction and decommissioning of the project would result in temporary increases of PM₁₀ that would exceed Eastern Kern Air Pollution Control District's (EKAPCD's) significance thresholds. As a result, construction- and decommissioning-generated emissions along with other cumulative projects located within the project area, would exceed EKAPCD's significance thresholds. Of particular concern with regard to regional air quality impacts are emissions of ozone-precursors (ROG

and NO_x) and PM₁₀, for which the region is designated nonattainment. The project would implement Mitigation Measure MM 4.3-1, which would require adherence to diesel emission-reduction measures during construction which would serve to reduce NO_x and PM emissions, as well as Mitigation Measure MM 4.3-2, which would require implementation of a dust control plan which would serve to reduce fugitive PM emissions during construction. Even with implementation of these mitigation measures, temporary construction and decommissioning project emissions for NO_x and PM₁₀ emissions would exceed EKAPCD's significance thresholds and conflict with or delay the attainment of the Mojave Desert Air Basin (MDAB) the Air Quality Management Plan (AQMP). For these reasons, project and cumulative regional air quality impacts associated with short-term construction and decommissioning activities would be considered significant and unavoidable.

Biological Resources

There are a number of special-status species that currently utilize the project site and surrounding vicinity. Implementation of the project in addition to the other projects under way or proposed within Kern County would impact habitat for transient wildlife species, including burrowing owls, loggerhead shrike, yellow-headed blackbird, other raptors, migratory birds, and desert kit fox. The project site contains habitat that support insects, rodents, and small birds that provide a prey base for raptors and terrestrial wildlife. In addition, based on the literature review and database search completed for the project, the region is known to support a diversity of special-status species, most of which are expected to utilize the project site on at least a transient basis. Given the number of present and reasonably foreseeable future development projects in the Antelope Valley, the proposed project, when combined with other projects, would result in a significant and unavoidable cumulative loss of foraging and nesting habitat for special-status species. While the project would have less-than-significant impacts with the implementation of Mitigation Measures MM 4.4-1 through MM 4.4-10, when combined with related projects, the cumulative impact would be significant and unavoidable.

Noise

With project implementation, maximum noise levels generated by project construction equipment would range from approximately 74 to 88 dBA L_{max} at a reference distance of 50 feet and average noise levels generated by project construction phases would range from approximately 79 to 95 dBA L_{eq} at a reference distance of 50 feet. Sensitive land uses in the project site vicinity that would be exposed to project construction noise levels include the sparsely distributed residential dwellings that are in the vicinity of the project site. Chapter 8.36 of the Kern County Municipal Code includes established hours of construction and limitations on construction related noise impacts on adjacent sensitive receptors. Noise producing construction activities 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, when they 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. Given the fact that construction activities could generate noise greater than the standard 65dB(a) for the Kern County General Plan and 55 dB(A) for short period of times, temporary construction and decommissioning impacts are considered significant and unavoidable. Implementation of Mitigation Measures MM 4.12-1 through MM 4.12-3 are designed to reduce impacts to the extent feasible during construction activities; however, impacts would still be significant and unavoidable.

The cumulative projects nearest to the project site are all either adjacent or close to the proposed project. Therefore, should construction of the proposed project and any of the cumulative projects occur currently,

cumulative construction noise impacts would occur. As construction of the proposed project would result in significant and unavoidable impacts, the construction of the proposed project concurrently with the construction of adjacent and nearby cumulative projects, if it were to occur, would result in a cumulatively considerable contribution to construction noise impacts in the vicinity of the project. Therefore, the cumulative impact would be significant and unavoidable.

Wildfire

With regard to impairment of an adopted emergency response plan or emergency evacuation plan, all of the related projects would be required to provide adequate emergency access in accordance with County Fire Code and Building Code requirements and prior to the issuance of a building permit. With regard to cumulative impacts related to exposure of project occupants to pollutant concentrations from a wildfire, while the proposed project is not within SRAs and/or High Fire Hazard Severity Zones, some related projects in the area may be. Related projects may also 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. Some related projects could be proposed in areas that could expose people or structures to risks from downslope or downstream flooding or landslides as a result of post-fire instability. However, these projects would be reviewed by Kern County for land use and zoning consistency and compliance with applicable requirements, and potentially analyzed for environmental impacts. The implementation of related projects would adhere to all fire codes to minimize the potential fire risk such as siting and design.

Furthermore, as previously mentioned, the project site is not classified as being within a high fire hazard severity zone, is located in rural, sparsely developed areas with limited population, is not located along an identified emergency evacuation route or within an adopted emergency evacuation plan, and would be in compliance with Fire Code and Building Code requirements. 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 conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

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 proposed project and associated environmental impacts.

Utilize property within Kern County for the placement of up to 128 MW of Solar PV panels and 60 MW of battery storage;

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 Senate Bill 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 Senate Bill 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 increases RPS in 2030 from 50 percent to 60 percent and establishes a goal of 100 percent RPS by 2045;

Develop an economically feasible and commercially financeable project;

Provide solar-generated electricity to the California Independent System Operator (CAISO) grid;

Assist Kern County in promoting its role as the State's leading producer of renewable energy;

Provide green jobs to Kern County and the state of California; and

Site and design the project in an environmentally responsible manner consistent with current Kern County guidelines.

6.3 Overview of the Proposed Project

The proposed project would include the development of a 2,285-acre solar facility and associated infrastructure with the capacity to generate up to 128 MW of renewable electric energy and store up to 60 MW energy in a Battery Energy Storage System (BESS). The proposed project includes several options for generation tie (gen-tie) routes, although only one route would be constructed. Gen-tie Option 1 would exit the project boundary heading northwest approximately 2 miles where it would connect into the existing substation at the Valentine Solar Project. Gen-tie Option 2 would exit the northern boundary of the project heading northeast approximately 2 miles where it would connect into the existing substation at the Catalina Solar project. Gen-tie Option 3 would exit the western boundary of the project heading west 0.3 miles to Southern California Edison's (SCE's) Tehachapi Renewable Transmission Project (TRTP) and then southwest approximately 2.5 miles adjacent to the TRTP, then west 3.5 miles where it would connect into the existing Rose Meadow Substation. Gen-tie Option 4 would be an extension of Gen-tie Option 1, and instead of connecting to the Valentine substation, it would continue north of the Valentine substation, tapping into the existing 220 kV Antelope Valley Transmission Line. The solar facility would utilize PV technology and consist of solar arrays mounted on either fixed or tracking structures mounted to vertical posts. The solar facility would operate year-round and would generate electricity during the daylight hours when electricity demand is at its peak.

The project would include the following permanent components: solar PV generating facilities and solar modules; an BESS; substations; operations and maintenance facility (O&M); an electrical collector system and inverters; generation-tie lines and an interconnection to the Statewide grid; telecommunication facilities; and site access and security measures. See Chapter 3, *Project Description*, of this EIR for a detailed project description.

6.4 Overview of Alternatives to the Project

Under CEQA, and as indicated in California Public Resources Code (PRC) Section 21002.1(a), the identification and analysis of alternatives to a project is a fundamental aspect of the environmental review process and is required to ensure the consideration of ways to mitigate or avoid the significant environmental effects of a project. Based on the significant environmental impacts of the proposed project, the aforementioned objectives established for the proposed project, and the feasibility of the alternatives

considered, four alternatives, including the No Project Alternative as required by CEQA, are considered in this chapter and summarized in **Table 6-1, Summary of Development Alternatives**. The Environmentally Superior Alternative, as required by CEQA, is described in Section 6.8, *Environmentally Superior Alternative*, below.

6.4.1 Alternative 1: No Project Alternative

The CEQA *Guidelines* require EIRs to include a No Project Alternative for the purpose of allowing decision makers to compare the effects of approving the proposed project versus a No Project Alternative. Accordingly, Alternative 1, the No Project Alternative, assumes that the development of the (up to) 128 MW PV solar facility or up to 60MW of battery energy storage and associated facilities on the 2,285-acre site would not occur. No gen-tie lines would be constructed. The No Project Alternative would not require a Conditional Use Permit (CUP) for construction and operation of a 128 MW solar 60 MW battery energy storage project, associated facilities and use of a temporary concrete batch plant. An amendment to the General Plan and Specific Plan circulation element along with public easement vacations would not be required. The No Project Alternative would maintain the current zoning, land use classifications, and existing land uses, which consist mostly of undeveloped 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

Alternative 2, the General Plan and Zoning Build-Out Alternative, would develop the project site to the maximum intensity allowed under the existing Kern County General Plan land use and zoning classifications. The project site is currently designated as 8.3 (Extensive Ag, 20-acre min), 8.5 (Resource Management, Minimum 20 Acre Size), 8.3/2.5 (Extensive Ag/Flood Hazard), 8.5/2.1 (Resource Management/Seismic Hazard), and 8.5/2.5 (Resource Management/Flood Hazard). According to the Kern County General Plan, the 4.1 (Accepted County Plan Areas) land use designation applies to areas where specific land use plans have already been prepared and approved. In the case of the project site, the southern portion of the project is within the boundaries of the Willow Springs Specific Plan. The Willow Springs Specific Plan designates portions of the site as 5.7 (Minimum 5 Gross Acres/Unit), 5.75 (Minimum 10 Gross Acres/Unit), 5.8 (Minimum 20 Gross Acres/Unit), and 5.8/2.1 (Residential – Minimum 20 Gross Acres/Unit/Seismic Hazard).

The project site has various zone classifications which include; A (Exclusive Agriculture), A FP (Exclusive Agriculture – Floodplain Combining), A FPS (Exclusive Agriculture – Floodplain Secondary Combining), A GH (Exclusive Agriculture – Geologic Hazard Combining), A GH FPS (Exclusive Agriculture – Geologic Hazard Combining – Floodplain Secondary Combining), E-2.5 RS FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-5 RS FPS (Estate Residential – 5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-10 RS FPS (Estate Residential – 10 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-10 RS GH FPS (Estate Residential – 10 acres Minimum – Residential Suburban Combining – Geologic Hazard Combining – Floodplain Secondary Combining), E-10 RS MH FPS (Estate Residential – 10 acres Minimum – Mobile Home Combining – Floodplain Secondary Combining), E-20 RS FPS (Estate Residential – 20 acres Minimum – Residential Suburban Combining –

Floodplain Secondary Combining), E-20 RS GH FPS (Estate Residential – 20 acres Minimum – Residential Suburban Combining – Geologic Hazard Combining – Floodplain Secondary Combining), and PL RS FPS (Platted Lands – Residential Suburban Combining – Floodplain Secondary Combining).

Implementation of Alternative 2 would consist of developing the project site under the current land use classification of 4.1 (Willow Springs Specific Plan), 8.3 (Extensive Ag – 20-acre min), 8.5 (Resource Management – Minimum 20 Acre Size), 8.3/2.5 (Extensive Ag/Flood Hazard), 8.5/2.1 (Resource Management/Seismic Hazard), and 8.5/2.5 (Resource Management/Flood Hazard). The 8.3 (Extensive Agriculture, 20-acre minimum) land use designation applies to agricultural uses involving large amounts of land with relatively low value per acre yields. Typical uses include livestock grazing, farming and woodlands. The minimum allowable parcel size in the 8.3 (Extensive Agriculture, 20-acre minimum) land use designation is 20 acres gross, except lands subject to a Williamson Act Contract/Farmland Security Zone Contract, in which case the minimum parcel size is 80 acres gross. The 8.5 (Resource Management, 20-acre minimum) land use designation applies primarily to open space lands containing important resources, such as wildlife habitat, scenic values, or watershed recharge areas. Typical uses include livestock grazing, farming and ranching, nature preserves, water storage and groundwater recharge areas, irrigated croplands, and open space and recreation. The minimum allowable parcel size in the 8.5 (Resource Management, 20-acre minimum) land use designation is 20 acres gross.

Given that the zoning designation for the project site is A (Exclusive Agriculture), A FP (Exclusive Agriculture – Floodplain Combining), A FPS (Exclusive Agriculture – Floodplain Secondary Combining), A GH (Exclusive Agriculture – Geologic Hazard Combining), A GH FPS (Exclusive Agriculture – Geologic Hazard Combining – Floodplain Secondary Combining), E-2.5 RS FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-5 RS FPS (Estate Residential – 5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-10 RS FPS (Estate Residential – 10 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-10 RS GH FPS (Estate Residential – 10 acres Minimum – Residential Suburban Combining – Geologic Hazard Combining – Floodplain Secondary Combining), E-10 RS MH FPS (Estate Residential – 10 acres Minimum – Mobile Home Combining – Floodplain Secondary Combining), E-20 RS FPS (Estate Residential – 20 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-20 RS GH FPS (Estate Residential – 20 acres Minimum – Residential Suburban Combining – Geologic Hazard Combining – Floodplain Secondary Combining), and PL RS FPS (Platted Lands – Residential Suburban Combining – Floodplain Secondary Combining), the project site would be developed in accordance with those designations. The portions of the project site zoned as A would be developed with agricultural uses (approximately 1,180 acres), the portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and the portions of the project site zoned PL RS FPS would be developed with single-family residential units as well (approximately 27 acres). No solar facilities would be developed under this alternative.

6.4.3 Alternative 3: Reduced Acreage Alternative

Under Alternative 3, the Reduced Acreage Alternative, the project site would be reduced to the portion of the project site outside of the Willow Springs Specific Plan. This alternative would reduce the project's footprint from 2,285 acres to 987 acres and would only allow construction on the northern site. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1, 3, and 4, would extend their lines to connect with the western boundary of the reduced site. Gen-tie option 2 would continue to extend from the north portion of the site. The reduced project acreage under

this alternative is still expected to contain enough land to construct a solar array field capable of generating approximately 55 MW, with up to 26 MW of BESS capacity due to the proportional reduction in project size. Similar to the proposed project, this alternative would still require the approval of six CUPs: to allow for the construction and operation of 55 MW photovoltaic electrical generating facility with up to 26 MW of BESS (Section 19.12.030.G) with associated facilities (substation, O&M facility) in an A District; to allow the operation of a temporary concrete batch plant (19.12.030.G) in an A District; to allow a construction microwave tower (19.12.030.F) in the A zone district; a general plan amendment to the circulation element to allow for the removal of section and mid-section lines; and to allow vacation of existing public access easements on the project site.

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

Alternative 4, the No Ground-Mounted Utility-Solar Development Alternative, would involve the development of a number of geographically distributed small to medium solar PV systems (100 kWh to 1 MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities situated throughout the 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 2,285 acres of total rooftop area) may be required to attain project's capacity of 128 MW of solar PV generating capacity. Because of space or capital cost constraints, many rooftop solar PV systems would be fixed-axis systems or would not include the same type of sun-tracking equipment that would be installed in a freestanding utility-scale solar PV project and, therefore, would not attain the same level of efficiency with respect to solar PV generation. Alternative 4 would generate 128 MW of electricity, but it would be for on-site use only. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. Similar to the project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. Power generated by such distributed solar PV systems would typically be consumed on-site by the commercial or industrial facility without requiring the construction of new electrical substation or transmission facilities. **Table 6-1, Summary of Development Alternatives**, provides a summary of the relative impacts and feasibility of each alternative. A complete discussion of each alternative is also provided below.

TABLE 6-1: SUMMARY OF DEVELOPMENT ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction and operation of a solar facility on approximately 2,285 acres would generate up to 128 MW of electricity and deliver it to the grid, with up to 60 MW of BESS. Approval of six Conditional Use Permits (CUP) for construction and operation of commercial solar electrical generating facilities, an Amendment to the General Plan and Willow Springs Specific Plan circulation element, removal of public easement vacations would be required.	N/A
Alternative 1: No Project Alternative	No development would occur on the project site. The project site would remain unchanged.	<p>Required by CEQA</p> <p>Avoids need for GPAs, CUP, and Amendment to Circulation Plan</p> <p>Avoids all significant and unavoidable impacts</p> <p>Greater impacts to GHGs</p> <p>Less impact in all remaining environmental issue areas</p> <p>Does not meet any of the project objectives</p>
Alternative 2: General Plan and Zoning Build-Out Alternative	Project site would be developed to the maximum intensity allowed under the Kern County General Plan land use designations and zoning classifications and other existing applicable restrictions.	<p>Avoids need for CUPs and GPA</p> <p>Similar impacts to biological resources, and tribal cultural resources</p> <p>Less impact to aesthetics, agricultural and forestry resources, and land use and planning</p> <p>Greater overall impacts in all remaining environmental issue areas</p> <p>Does not meet any of the project objectives</p>

TABLE 6-1: SUMMARY OF DEVELOPMENT ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Alternative 3: Reduced Acreage Alternative	Construction and operation of one solar facility on approximately 987 acres. This alternative is still expected to contain enough land to construct a solar array field capable of generating approximately 55 MW, with up to 26 MW of BESS due to the proportional reduction in project size. The project site would require approval of six CUPs, GPA and Amendment to Circulation Plan General Plan Amendment.	<p>Similar impacts to energy, hazards and hazardous materials, land use and planning, public services, transportation, tribal cultural resources, and utilities and service systems</p> <p>Greater overall impacts to GHG</p> <p>Less impact in all remaining environmental issue areas</p> <p>Does not meet all the project objectives</p>
Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only	The construction of 128 MW of PV solar distributed on rooftops throughout the Antelope Valley. Electricity generated would be for on-site use only.	<p>Avoids need for CUP and GPA at the project site but may require other entitlements (such as a CUP or variance) on other sites</p> <p>Avoid significant and unavoidable impacts associated with aesthetics, air quality, and biological resources</p> <p>Greater impacts to GHG emissions land use and planning, and noise</p> <p>Similar impacts to cultural resources, energy, and tribal cultural resources</p> <p>Less impact in all remaining issue areas</p> <p>Does not meet all the project objectives</p>

6.5 Alternatives Considered and Rejected

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

alternatives were initially considered but were eliminated from further consideration in this EIR because they do not meet project objectives or were infeasible.

Wind Energy Project Alternative

Industrial Power Plant Alternative

Alternative Site Alternative

6.5.1 Wind Energy Project Alternative

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

It is a renewable and infinite resource.

It is free of any emissions, after installation, including carbon dioxide (GHG).

It is a free resource after the capital cost of installation (excluding maintenance).

In addition, energy production from wind power would not require the significant water usage associated with coal, nuclear, and combined-cycle sources. Turbines used in wind farms for commercial production of electric power are usually three-bladed units that are pointed into the wind by computer-controlled motors. The wind farm would consist of a group of wind turbines placed where electrical power is produced. The individual turbines would be interconnected with a medium-voltage power collection system and a communications network. At a substation, the medium-voltage electrical current would be increased through a transformer before connection to the high-voltage transmission system. Compared with traditional energy sources, the environmental effects of wind power are relatively minor. However, wind farms would not decrease short-term construction-related air emissions. Wind turbines would also have the potential to affect avian species in the local area. In addition, in order for wind turbines to produce an equivalent 128 MW of power that the project would produce, the alternative would require more space than what the project site current accommodates and, consequently, the project site would need to be expanded.

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

It would substantially increase the significant aesthetic impacts associated with the project because wind turbines would be much taller than solar panels, require FAA lighting and are more visible from many viewpoints.

It may result in additional/greater biological resources impacts to avian species than the project.

It may generate long-term noise impacts to nearby sensitive receptors from rotating turbine blades.

6.5.2 Industrial Power Plant Alternative

This alternative would involve the development of a natural gas-fired power plant or plants (equivalent to 128 MW) in Kern County. Fossil fuel-powered plants are designed on a large scale for continuous operation. However, byproducts of industrial power plant operation need to be considered in both design and operation. When waste heat that results from the finite efficiency of the power cycle is not recovered and used as steam or hot water, it must be released to the atmosphere, and often uses a cooling tower as a cooling medium (especially for condensing steam). The flue gas from combustion of the fossil fuels is discharged to the air and contains carbon dioxide and water vapor as well as other substances, such as nitrogen, nitrogen oxides, and sulfur oxides. Furthermore, unlike the proposed project, fossil fuel-powered plants are major emitters of GHGs. In addition, industrial power plants generally involve the construction of large structures, such as cooling towers and gas stacks, as well as a large number of employees to operate the facility on a 24/7 basis 365 days a year. Accordingly, the development of an industrial power plant would typically result in greater adverse impacts related to: (1) aesthetics and the local visual setting of the project area; (2) air quality and GHG emissions; (3) land use and planning conflicts with the rural development of the surrounding area; (4) noise from the plant operations; (5) traffic from increased employment at the facility; and (6) demand on public utilities, including water and waste disposal.

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

It would result in additional/greater impacts than the proposed project including aesthetics, air quality, GHG emissions, land use and planning, noise, transportation, and public utilities, including water use and disposal.

Depending on siting, it may also result in greater biological resources impacts than the project.

It would not contribute to the statewide renewable energy and GHG reduction objectives as this alternative would use non-renewable energy to produce electricity.

6.5.3 Alternative Site

This alternative would involve the development of the proposed project on another site located within Kern County, other than constructing rooftop distributed generation systems. Although undetermined at this time, the alternative project site would likely be located in the Antelope Valley desert region of the County. This alternative is assumed to involve construction of a 128 MW PV solar facility and up to 60 MW of BESS on a site totaling 2,285 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 proposed project.

The 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 the 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, noise, wildfire, and biological resources. This is based on the known general conditions in the area and the magnitude of the proposed project.

In addition, alternative sites for the project are not considered to be “potentially feasible,” as there are no suitable sites within the control of the project proponent that would reduce project impacts. The potential amount of available, similar sites is further reduced because unlike the proposed project, alternative sites may not include sites with close proximity to transmission infrastructure. Therefore, this alternative was eliminated because it would not avoid or substantially reduce the significant environmental effects of the proposed project.

6.6 Analysis Format

In accordance with CEQA *Guidelines* Section 15126.6(d), each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be less, similar, or greater than the corresponding impacts of the project. Furthermore, each alternative is evaluated to determine whether the project objectives identified in Chapter 3, *Project Description*, of this EIR would be mostly attained by the alternative. The project’s impacts that form the basis of comparison in the alternatives analysis are those impacts which represent a conservative assessment of project impacts. The evaluation of each of the alternatives follows the process described below.

- a) The net environmental impacts of the alternative after implementation of reasonable mitigation measures are determined for each environmental issue area analyzed in this EIR.
- b) Post-mitigation significant and less than significant environmental impacts of the alternative and the project are compared for each environmental issue area as follows:

Less: Where the impact of the alternative after feasible mitigation would be clearly less adverse than the impact of the project, the comparative impact is said to be “less.”

Greater: Where the impact of the alternative after feasible mitigation would be clearly more adverse than the impact of the project, the comparative impact is said to be “greater.”

Similar: Where the impacts of the alternative after feasible mitigation and the project would be roughly equivalent, the comparative impact is said to be “similar.”

- c) The comparative analysis of the impacts is followed by a general discussion of whether the underlying purpose for the project, as well as the project’s basic objectives would be substantially attained by the alternative.

Table 6-2, *Comparison of Alternatives*, provides a summary and side-by-side comparison of the proposed project with the impacts of each of the alternatives analyzed. Please note that in Alternatives 1 through 4 in Table 6-2, the references to “less, similar, or greater,” refer to the impact of the alternative compared to the proposed project, and the impacts “no impact (NI), less than significant (LTS), or significant and unavoidable (SU),” in the parentheses refer to the significant impact of the specific alternative.

TABLE 6-2: COMPARISON OF ALTERNATIVES

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

TABLE 6-2: COMPARISON OF ALTERNATIVES

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

6.7 Impact Analysis

6.7.1 Alternative 1: No Project Alternative

Environmental Impact Analysis

Aesthetics

Under the No Project Alternative, no development would take place on the project site. The project site would remain in its current state as undeveloped land and no change to the scenic vistas or existing visual character of the site would occur. Impacts to scenic resource and daytime and nighttime views in the area would not occur. Therefore, there would be no impact and the No Project Alternative would result in less impact to aesthetics compared to the proposed project.

Agricultural and Forestry Resources

Under the No Project Alternative, the project site would remain undeveloped and solar panels would not be installed. The project site would remain in its current state, as undeveloped land containing desert vegetation. As such, the No Project Alternative would not involve changes to the existing environment which could result in the conversion of Farmland or forest land to non-agricultural or non-forest uses. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to agricultural and forestry resources compared to the proposed project.

Air Quality

Under the No Project Alternative, the project site would remain undeveloped and there would be no construction activities or operational activities that would generate air emissions. No exceedance of the EKAPCD's thresholds for NO_x or PM₁₀ would occur, no confliction or daily with the attainment of the standard, nor would the No Project Alternative 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 proposed project.

Biological Resources

Under the No Project Alternative, the project site would remain undeveloped and existing biological resources on the project site, including special-status plant and wildlife species, would remain undisturbed since no construction or operation would occur. The project site would remain in its current state, as undeveloped land containing desert vegetation, and would not contribute to a cumulative loss of foraging and nesting habitat for burrowing owls, Swainson's hawk, loggerhead shrike, yellow-headed blackbird, other raptors, desert kit fox, and migratory bird species that may utilize habitat on the project site. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to biological resources compared to the proposed project.

Cultural Resources

Under the No Project Alternative, the project site would remain undeveloped and no ground disturbing activities would occur. Therefore, disturbance to potential historical resources, archeological resources, or human remains located on-site would not occur and this alternative would not require mitigation. There would be no impact and the No Project Alternative would result in less impacts related to cultural resource compared to the proposed project.

Energy

Under the No Project Alternative, the project site would remain undeveloped and no energy consumption activities would occur. As such, the No Project Alternative would not result in wasteful, inefficient, or unnecessary consumption of energy resources and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to energy compared to the proposed project.

Geology and Soils

Under the No Project Alternative, the project site would remain undeveloped and no ground disturbance would occur. As such, the No Project Alternative would not directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault or strong seismic ground shaking; result in substantial soil erosion or loss of topsoil; or directly or indirectly destroy a unique paleontological resource or unique geologic feature. Therefore, there would be no impact and the No Project Alternative would result in fewer impact related to geology and soils compared to the proposed project.

Greenhouse Gas Emissions

Under the No Project Alternative, emissions associated with construction and operation of a solar energy facility would not occur. Therefore, those emissions that contribute to GHGs would be eliminated and no impacts would occur related to generating emissions that may have a significant impact on the environment or consistency with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. However, the potential offset of GHG emissions resulting from operation of the solar power generating facility would not be realized. Impacts would be less than significant under this alternative; however, impacts from implementation of this alternative would be greater than those of the project as it would not offset GHG emissions.

Hazards and Hazardous Materials

Under the No Project Alternative, the project site would remain undeveloped, and no construction or operational activities would occur. The project site would remain in its current condition. As such, this alternative would not involve use, transport, and disposal of hazardous materials associated with the project site; create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; or expose people or structures to significant risk of loss, injury, or death involving wildland fires. Therefore, there would no impact and the No Project Alternative would result in less impacts related to hazards and hazardous materials compared to the proposed project.

Hydrology and Water Quality

Under the No Project Alternative, the project site's existing hydrology and water quality would remain unchanged as no development or ground disturbance would occur on the project site. As such, this alternative would not violate water quality standards or waste discharge requirements; substantially alter the existing drainage pattern of the site or area in a manner that would substantially increase the rate or amount of surface runoff which would result in flooding onsite or offsite; create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage system; contribute to inundation by a flood hazards, tsunami, or seiche; or conflict with or obstruct implementation of a water quality control plan or groundwater management plan. Therefore, there would be no impact and the No Project Alternative would result in less impact related to hydrology and water quality compared to the proposed project.

Land Use and Planning

The No Project Alternative would not develop any new uses at the project site, and would thus not require a CUP. Current land uses on the site are consistent with the zoning and General Plan land use classifications. As such, the No Project Alternative would not cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, there would be no impact and the No Project Alternative would result in less impact related to land use and planning compared to the proposed project.

Noise

Under the No Project Alternative, the project site would remain undeveloped. Noise sources from construction and operation would not be present on-site, and existing noise conditions would remain the same. As such, the No Project Alternative would not result in generation of a substantial temporary or permanent increase in ambient noise levels or generate excessive ground-borne vibration. Therefore, there would be no impact and the No Project Alternative would result in less impact related to noise compared to the proposed project.

Population and Housing

Under the No Project Alternative, the project site would remain undeveloped and no new populations or demand for employment would occur. As such, the No Project Alternative would not induce substantial unplanned population growth and would not displace substantial numbers of existing people or housing. Therefore, there would be no impact and the No Project Alternative would result in less impact related to population and housing compared to the proposed project.

Public Services

Under the No Project Alternative, the project site would remain undeveloped and no new demand for fire or police protection services would occur. Furthermore, no new demand for schools, parks, or other government facilities would occur. As such, the No Project Alternative would not result in the need for new or physically altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection, police protection, schools, parks, or other government facilities. Therefore, there would be no impact and the No Project Alternative would result in less impact related to public services compared to the proposed project.

Transportation

Under the No Project Alternative, the solar facilities would not be constructed and this alternative would not introduce construction and operational-related trips. Existing traffic patterns and volumes on nearby roadways would remain unchanged. As such, the No Project Alternative would not conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities and not conflict or be inconsistent with CEQA *Guidelines* Section 15064.3, subdivision (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. According to record searches and tribal resource consultations, no tribal resources are present on the project site. As such, the No Project Alternative would not cause a substantial adverse change in the significant of a tribal cultural resources with cultural value to a California Native American tribe that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k) or as a resource determined by the lead agency. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to tribal cultural resource compared to the proposed project.

Utilities and Service Systems

Under the No Project Alternative, the solar facilities would not be constructed and there would be no new demand for utilities and service systems on the project site. As such, the No Project Alternative would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects; impact water supplies; generate solid waste in excess of State or local standards; or conflict with federal, state, and local management and reduction 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 proposed project.

Wildfires

Under the No Project Alternative, the solar facilities would not be constructed. As such, the No Project Alternative would not expose occupants to pollutant concentrations from a wildfire; require the installation or maintenance of associated infrastructure; or expose people or structures to significant risks. Therefore, there would be no impact and the No Project Alternative would result in less impact to risks associated with wildfires than the proposed project.

Comparison of Impacts

The No Project Alternative would avoid creating all of the significant and unavoidable impacts associated with the 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 to GHGs would be greater under this alternative.

Relationship to Project Objectives

The No Project Alternative would not achieve any of the project objectives listed above in Section 6.2, *Project Objectives*, including assisting California in reducing GHG emissions. Although this alternative would create less environmental impacts overall, the objectives that shape the project would not be realized under this alternative.

6.7.2 Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative

Environmental Impact Analysis

Aesthetics

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). Solar panels would not be installed and solar energy would not be generated on the site. Development of the project site with agricultural uses and residential uses would be visually similar to the types of uses that are within the project area and, thus, potential impacts to visual character would be reduced under this alternative. Development of residential uses would alter existing views of the project area; however, these single-family dwellings would be spread out in the project area. Furthermore, the development of single-family dwellings would generally cause less visual quality impacts than the development of uniform, large-scale solar facilities, which would remove large areas of Joshua tree woodlands and other natural vegetation. Single-family housing would be able to avoid such areas and build in areas that are less impactful. As such, significant and unavoidable impacts related to visual resources would be eliminated under this alternative. Therefore, impacts would be less than significant under the General Plan/Specific Plan and Zoning Build-Out Alternative and, thus, this alternative would result in less aesthetic impacts compared to the project.

Agriculture and Forestry Resources

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). Solar panels would not be installed and solar energy would not be generated on the site. Under this alternative, there would be no zoning change, therefore increasing the total amount of agricultural land in Kern County. Development of the site with residential uses would not result in impacts related to the conversion of designated Farmland to non-agricultural uses. As noted in Section 4.2, *Agricultural Resources*, the project site is not under a Williamson Contract and, therefore, development under this alternative would not conflict with a Williamson Act contract. Furthermore, development under Alternative 2 would be consistent with the existing zoning and the portions of the project site designated as A (Exclusive Agriculture) would remain. Therefore, there would be no impact under the General Plan and Zoning Build-Out Alternative and, thus, this alternative would result in less agricultural resource impacts as the proposed project.

Air Quality

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). Solar panels would not be installed and solar energy would not be generated on the site. Both the proposed project and the General Plan and Zoning Build-Out Alternative would result in short-term construction emissions, and would require implementation of mitigation measures in order to reduce the severity of construction-related emissions. The conversion of the project site to agricultural uses would require similar heavy equipment to the proposed project. Thus, similar to the proposed project, this alternative would require implementation of Mitigation Measures MM 4.3-1 through MM 4.3-3 in order to reduce the severity of construction-related emissions. However, similar to the proposed project, impacts would remain significant and unavoidable for project-level and cumulative construction impacts. Operational emissions associated with the proposed agricultural uses under the General Plan and Zoning Build-Out Alternative would be greater due to routine emissions associated with agricultural vehicles, livestock emissions, etc. Given this increase, this alternative would result in greater air quality impacts in the air basin than the proposed project.

As it relates to impacts on implementation of the applicable air quality plan, since project-level and cumulative construction impacts would be significant and unavoidable, the General Plan and Zoning Build-Out Alternative would result in construction emissions of a magnitude that would obstruct the air quality planning goals set forth by EKAPCD. Therefore, similar to the project, impacts would be significant and unavoidable.

Implementation of this alternative would expose sensitive receptors to substantial pollutant concentrations. In particular, during construction of this alternative, it is possible that on-site workers could be exposed to Valley Fever as fugitive dust is generated during construction. However, dust-minimizing techniques, as implemented through Mitigation Measure MM 4.3-3, would reduce these impacts to less than significant. As with the proposed project, the General Plan and Zoning Build-Out Alternative would result in less-than-significant impacts related to toxic air contaminants, localized pollutant concentrations, and asbestos.

Overall, even with implementation of similar mitigation proposed for the project, impacts to air quality under the General Plan and Zoning Build-Out Alternative would likely remain significant and unavoidable and result in greater overall impacts to air quality than the proposed project due to the greater operational emissions associated with the agricultural uses.

Biological Resources

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). Solar panels would not be installed and solar energy would not be generated on the site.

Due to the residential component of the General Plan and Zoning Build-Out Alternative, similar to the proposed project, development would occur under this alternative and, as such, there is the potential to impact biological resources. Like the proposed project, Alternative 2 would be required to implement

mitigation measures to avoid such impacts. However, development under this alternative would be less given that portions of the project site would remain zoned A (Exclusive Agriculture). Conversion of the undeveloped site to agricultural uses would affect biological resources on the project site as this alternative would replace all native vegetation with agricultural crops or grazing areas for these areas of the project site. Agricultural uses would also result in increased human presence as opposed to the unmanned solar facility that is only visited occasionally for maintenance and panel washing.

Furthermore, the single-family dwellings would be spread out in the project area. Given this space, it is likely that impacts to biological resources, particularly the Joshua tree woodland that would be affected by the project, would be less than the proposed project. In particular, as it relates to impacts on candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, as with the proposed project, the General Plan and Zoning Build-Out Alternative would have an impact to Robbins' nemacodus, Joshua trees, silver cholla, and beavertail cactus as well as golden eagle California condors, burrowing owls, loggerhead shrike, Swainson's hawk, and desert kit fox, migratory birds, Coast horned lizard, northern California legless lizard, Tulare grasshopper mouse, Tehachapi pocket mouse, San Joaquin pocket mouse, American badger, and southern grasshopper mouse. With implementation of Mitigation Measures MM 4.4-1 through MM 4.4-10, impacts would be reduced to less than significant.

With regard to impacts on any riparian habitat or other sensitive natural community, or jurisdictional waters, identified in local or regional plans, policies, or regulations or by CDFW or USFWS, construction activities could result in significant impacts related to scale broom scrub, a riparian or wetland area east of the project site as well as jurisdictional features to ephemeral drainages within the project site. However, as with the project, implementation of Mitigation Measures MM 4.4-11 through MM 4.4-14 would reduce impacts to less than significant under the General Plan and Zoning Build-Out Alternative.

Implementation of the above referenced mitigation measures would also reduce potential impacts to state or federally protected wetlands, the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, and consistency with local policies and ordinances protecting biological resources. The General Plan and Zoning Build-Out Alternative, as with the proposed project, would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan.

Based on the above, project-level impacts under the General Plan and Zoning Build-Out Alternative would be less than significant with implementation of mitigation and similar to those of the proposed project. However, cumulatively, this alternative would still result in significant and unavoidable impacts to biological resources; regardless of the type of development, biological resources are being impacted throughout the Antelope Valley. Therefore, the General Plan and Zoning Build-Out Alternative would result in similar impacts related to biological resources when compared to the proposed project.

Cultural Resources

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). Solar panels would not be installed and solar energy would not be generated on the site.

To convert portions of the project site to agricultural uses, this alternative would involve greater ground disturbance as opposed to the proposed project that would have some no build areas. While no historical or archaeological resources were identified, ground-disturbing activities associated with the project have the potential to encounter undocumented archaeological resources that could qualify as historical resources. Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would implement Mitigation Measures MM 4.5-1 and MM 4.5-2. 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 Measure MM 4.5-3 would ensure that any human remains encountered are appropriately addressed and impacts would be less than significant.

Based on the above, although both the project and this alternative would result in less-than-significant impacts with mitigation as it relates to historical resources, archaeological resources, and human remains, the General Plan and Zoning Build-Out Alternative would result in greater cultural resource impacts compared to the proposed project as greater ground disturbance required under this alternative could affect undocumented subsurface cultural resources.

Energy

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). Solar panels would not be installed and solar energy would not be generated on the site.

The portions of the project site that would be developed with agricultural uses would require less-intensive construction and operational activities related to the consumption of natural gas and transportation-related energy (petroleum-based fuels) and less-intensive construction activities related to electricity usage. However, greater operational electricity usage associated with the greater consumption of water associated with the proposed agricultural uses would occur. Overall, the agricultural uses would require less energy consumption. The portions of the project site that would be developed with single-family residences, would require similar construction activities, and more-intensive operational activities, related to the consumption of natural gas and transportation-related energy. However, greater operational electricity usage associated with the greater consumption of water associated with the proposed residential uses would occur. Overall, the residential uses would require greater energy consumption.

Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.6-1, which would require the use of energy-efficient and alternatively fueled equipment and ensure compliance with Title 13, California Code of Regulations, Section 2449 et seq., which imposes construction equipment idling restrictions. As such, the wasteful, inefficient, or unnecessary consumption of energy resources would be similar to the proposed project. In addition, similar to the proposed project, the General Plan and Zoning Build-Out Alternative would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Based on the above, impacts under the General Plan and Zoning Build-Out Alternative related to energy would be less than significant, but greater than those of the proposed project as the project site would not generate renewable energy, and would therefore, not assist the state in meeting its renewable energy generation goals to the fullest extent as compared to the proposed project.

Geology and Soils

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). Solar panels would not be installed and solar energy would not be generated on the site.

Compared to the project, the General Plan and Zoning Build-Out Alternative would have a greater potential to expose people to seismic hazards because this alternative would establish a permanent residential population onsite.

Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would not directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault. With regard to seismic ground shaking, similar to the proposed project, the General Plan and Zoning Build-Out Alternative would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Kern County has adopted the CBC 2016 Edition (CCR Title 24), which incorporates substantially the same requirements as the IBC, 2015 Edition, with some modifications and amendments. Adherence to all applicable regulations would ensure that effects from strong seismic ground shaking would be minimized. As it relates to unique paleontological resource or site or unique geologic feature, similar to the proposed project, under the General Plan and Zoning Build-Out Alternative any ground disturbance within the project site could result in a potentially significant impact to paleontological resources. As such, the General Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.7-1 through MM 4.7-3 to reduce impacts to paleontological resources.

As discussed above, with implementation of mitigation similar to that required for the proposed project, impacts to geology and soils would likely be less than significant. However, impacts to geology and soils would be slightly greater under this alternative compared to the proposed project as the General Plan and Zoning Build-Out Alternative would result in greater initial soil disturbance during construction and would place a permanent residential population in the vicinity of seismic hazards.

Greenhouse Gas Emissions

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). Solar panels would not be installed and solar energy would not be generated on the site.

As portions of the General Plan and Zoning Build-Out Alternative would develop land uses that would emit GHG emissions throughout the life of the project (from increased water usage, traffic, operation of agricultural equipment, and livestock emissions), this would result in a net gain of GHG emissions within California. Unlike the proposed project, the General Plan and Zoning Build-Out Alternative would not assist an off-taker 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 and Zoning Build-Out Alternative would be greater when compared to the proposed project since the beneficial reduction in GHG emissions would not occur as with the proposed project.

Hazards and Hazardous Materials

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). Solar panels would not be installed and solar energy would not be generated on the site.

There are no known hazardous materials in the soil that would be disturbed during construction of either the agricultural uses or residential uses. Agricultural uses on the project site could require the use of hazardous materials during operation including herbicides and pesticides. In addition, Because the General Plan and Zoning Build-Out Alternative has the potential for development of residential units, there is an increased potential for the use of household chemicals as well as chemical use similar to the proposed project, including fuels, solvents, paint, lubricants, and other potentially hazardous materials. However, 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 the proposed project, the General Plan and Zoning Build-Out Alternative would implement Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.17-1 in order to avoid spills and minimize impacts in the event of a spill; regulate the use of hazardous materials during construction and operation, including the use of pesticides and herbicides; and ensure that wastes requiring special disposal are handled according to state and county regulations that are in effect at the time of disposal, respectively. Implementation of these mitigation measures would reduce impacts related to a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As it relates to wildland fires, the project site is not within an area of high or very high fire hazard. However, similar to the project, the General Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.14-1, which includes the development and implementation of a fire safety plan for construction and operation of the project in the event of a fire on the project site.

Impacts under the General Plan and Zoning Build-Out Alternative and the project would result in less-than-significant impacts after implementation of mitigation measures and the potential impacts from hazards and hazardous materials would be similar to those of the proposed project.

Hydrology and Water Quality

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). Solar panels would not be installed and solar energy would not be generated on the site. Similar to the proposed project, the agricultural development would not substantially increase impervious surfaces. Conversion of the project site to agricultural uses and installation of the proposed solar panels would likely result in similar ground disturbance and erosion potential. However, operation of the agricultural uses proposed under this alternative would likely involve continued ground disturbance from activities such as grazing and plowing, whereas the proposed project's operation would not; thereby, posing a greater threat to water quality. Operation of agricultural uses could also affect groundwater quality through the application of pesticides or herbicides. The residential component of the General Plan and Zoning Build-Out

Alternative would result in larger areas of change to the landscape and drainage patterns of the project site. Construction of the General Plan and Zoning Build-Out Alternative would also result in an increase wastewater and urban runoff generated from development of residential uses. Such development would increase impervious surfaces compared to the proposed project and result in a potentially greater impact on water quality. Once operational, a conservative estimated demand for water is 1 acre-foot of water per year per residence, which would result in greater demand under the General Plan and Zoning Build-out Alternative than under the proposed project.

Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would include completion of a NPDES completion form as well as implementation of Mitigation Measure MM 4.9-1 in order to reduce potential impacts related to violating water quality standards or degradation of surface or groundwater quality during construction and operation of the General Plan and Zoning Build-Out Alternative. As it relates to groundwater supplies, water requirements under the General Plan and Zoning Build-Out Alternative, similar to the proposed project, would be relatively small and would represent a small portion of the established safe yield of the basin, and would not substantially deplete groundwater levels in comparison to existing conditions. As such, impacts would be less than significant.

With regard to existing drainage patterns, installation of the facilities required under the General Plan and Zoning Build-Out Alternative would alter existing on-site drainage patterns and flowpaths to some degree, and could alter the way that stormwater from upgradient flows across the project site during major events. Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would: (1) ensure that the retention basins and other stormwater management features are consistent with existing regulatory requirements and can minimize any erosion or sedimentation to less-than-significant levels; (2) ensure that flooding onsite or offsite is reduced to less-than-significant levels; and (3) minimize potential increases in stormwater flow and other project-induced changes to drainage patterns to less-than-significant levels.

The project site is located well inland and far from the ocean or any enclosed or semi-enclosed water body such that there would be no potential threat from tsunami or seiche hazards and impacts would be less than significant. In addition, water for construction and operation phases under the General Plan and Zoning Build-Out Alternative would be obtained from a nearby well or trucked onto the site from a local purveyor and would be subject to the requirements of the adjudicated basin management. Therefore, the project would not conflict with the groundwater management of the area and the potential impacts would be less than significant.

Overall, although both the project and this alternative would result in less-than-significant impacts with the implementation of mitigation, the General Plan and Zoning Build-Out Alternative would result in greater impacts to hydrology and water quality compared with the proposed project as operation of the agricultural and residential uses proposed under this alternative would likely involve continued ground disturbance from activities such as grazing and plowing.

Land Use and Planning

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). Solar panels would not be installed and solar energy would not be generated on the site. Unlike the proposed project, the General Plan and Zoning Build-Out Alternative would not conflict with the existing land use at the project

site, because the site would be developed with the current General Plan land use and zoning designations. This alternative would be consistent with current zoning as well as existing land use plans, policies, and regulations and no CUP, public vacations or General Plan/ Specific Plan Circulation Element Amendment would be required. Therefore, there would be no impact and the General Plan and Zoning Build-Out Alternative would result in less impact related to land use and planning compared to the proposed project.

Noise

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). During construction, impacts under this alternative would be similar to the impacts of the proposed project, as the conversion of the project site to agricultural and residential uses would require similar heavy equipment as required for the construction of the proposed project. In addition, for development of the residential uses, the use of construction vehicles, heavy equipment operation, and worker carpool trips would also be similar to the proposed project. During operation, with regard to the proposed agricultural and residential uses, this alternative would generate greater noise than the proposed project associated with the daily operation of agricultural equipment, worker vehicles, and residential activities.

Under this alternative, similar to the proposed project, construction activities have the potential to result in the generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards and, thus, impacts would be significant and unavoidable, similar to the project. Implementation of Mitigation Measures MM 4.12-1 through MM 4.12-3 are designed to reduce impacts to the extent feasible during construction activities; however, impacts would still be significant and unavoidable. During operation, there would be an increase in daily traffic to the project site due to agricultural and residential uses. Additionally, continuous human presence on the project site would also be a source of permanent onsite noise. However, this increase would not increase permanent onsite noise to the extent that an impact would occur and impacts would be less than significant.

The closest off-site occupied residential structures would be located over 6,336 feet from construction activities. As such, the vibration levels at the nearest residences would not reach the vibration level threshold for older residential structures. Operation of the General Plan and Zoning Build-Out Alternative would involve mostly regular maintenance trucks accessing the project site, residential traffic, and agricultural equipment use that would be a sufficient distance from structures (i.e., over 100 feet away from structures). A such, vibration impacts would be minimal and are not expected to have any measurable effect on the adjacent off-site sensitive receivers.

Both the project and this alternative would result in significant and unavoidable construction impacts, similar to the proposed project. The General Plan and Zoning Build-Out Alternative would result in greater permanent noise impacts than the proposed project due to the proposed agricultural and residential uses, which involve an increase use of agricultural equipment and residential traffic, during operation of the alternative.

Population and Housing

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site

zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). The development of residential units would result in a substantial increase in population and housing impacts on the project site, compared with the proposed project. Therefore, impacts to population and housing under the General Plan and Zoning Build-Out Alternative would be greater than those from the project.

Public Services

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). The proposed agricultural and residential uses would increase the need for public services, including fire and police protection, in an area that is not currently serviced.

In particular, similar to the proposed project, construction of the General Plan and Zoning Build-Out Alternative would result in a similar number of construction workers on the project site and increased fire service demands would occur during construction of this alternative. However, the General Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.14-1, which would require the implementation of a fire safety plan. During operation, the portion of the project site that would be developed with agricultural uses could result in a slight increase in long-term population, while the portions of the project site developed with residential uses would establish a permanent population. Similar to the project, the General Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.14-2, which would require the project operator to pay Kern County development impact fees to compensate for any permanent impacts to fire protection services and facilities resulting from the operation of this alternative. Implementation of Mitigation Measure MM 4.14-1 would also reduce fire risks on-site during operation of this alternative. Impacts related to fire protection would be less than significant with mitigation.

With regard to police protection, while the project site is located in an area that is unlikely to attract attention, construction activities related to installation of new structures would increase traffic volumes along SR 58 and SR 14, similar to the proposed project. With regard to the agricultural uses, there would be no construction-related traffic for the conversion of the project site to agricultural uses. The increase in traffic related to development of residential uses would be temporary and thus would not have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. During operation of this alternative, agricultural uses would increase operational traffic due to the increase employees travelling to the project site, 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. Impacts would be less than significant.

With regard to schools, parks, and other government facilities, similar to the proposed project, under the General Plan and Zoning Build-Out Alternative, construction workers would likely come from an existing local and/or regional construction labor force and would not likely relocate their households as a consequence of working on the project. Therefore, the short-term increased employment of construction workers on the project site would not result in a notable increase in the residential population of the area surrounding the project site. Accordingly, there would not be a corresponding demand or use of the local schools, parks, or public facilities. During operations under the General Plan and Zoning Build-Out Alternative, agricultural and residential uses would establish a larger permanent local population than under the proposed project. However, similar to the proposed project, this staff would likely come from an existing local and/or regional labor force and would not likely relocate their households as a consequence of working

on the project. Therefore, the increase of onsite staff at the project site would not result in a notable increase in the residential population of the area surrounding the project site under the General Plan and Zoning Build-Out Alternative. Accordingly, there would not be a corresponding demand or use of the local schools, parks, or public facilities, and, similar to the proposed project, there would be no impact.

Although both this alternative and the project would result in less-than-significant impacts with implementation of mitigation, the General Plan and Zoning Build-Out Alternative would result in greater impacts to public services compared to the proposed project due to proposed agricultural and residential uses, which would result in an increase in long-term population.

Transportation

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). With regard to the agricultural uses, there would be no construction-related traffic for the conversion of the project site to agricultural uses. Once operational, the General Plan and Zoning Build Out Alternative would involve more routine vehicle trips associated with agricultural uses. Due to the residential component of this alternative, construction-related traffic would be similar to the project because development of residential units would likely require similar numbers of construction-related workers and material transport trips. Additionally, like the proposed project, construction of residences could occur within the same time frame as other projects in the area, thereby contributing to cumulative traffic increases. However, once operational, vehicle trips associated with the proposed project would be limited to the employees that would work on the site. Conversely, with the General Plan and Zoning Build Out Alternative, operational vehicle trips associated with the numerous residences would be significantly greater than the proposed project due to the increased residential population.

Similar to the proposed project, during construction of the General Plan and Zoning Build-Out Alternative, which would require similar construction trips for installation of the residential uses, all study roadway segments are forecasted to operate at Caltrans- or County-defined acceptable LOS C conditions or better. As construction impacts would be less than significant, operation of this alternative would also have a less-than-significant impact on area roadways.

With regard to consistency with CEQA *Guidelines* Section 15064.3, subdivision (b), as regulations of SB 743 have not been finalized or adopted by the County, automobile delay remains the measure used to determine the significance of a transportation impact. Therefore, impacts related to CEQA *Guidelines* Section 15064.3, subdivision (b) would be less than significant under the General Plan and Zoning Build-Out Alternative, as with the proposed project.

Therefore, although both this alternative and the project would result in less-than-significant impacts, impacts to transportation from the General Plan Build-Out Alternative would be greater when compared to those of the project as operational agricultural uses and residential would increase the amount of trips to the project site as compared to the project.

Tribal Cultural Resources

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). According to record searches and tribal resource consultations, tribal resources may be present on the project site. With implementation of Mitigation Measure MM 4.5-2, potential impacts to tribal cultural resources would be further minimized. Therefore, similar to the proposed project, and with implementation of Mitigation Measure MM 4.5-2, impacts to tribal cultural resources and impacts to tribal cultural resources would be less than significant under the General Plan/Specific Plan and Zoning Build-Out Alternative.

Utilities and Service Systems

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). While the proposed residential uses would increase impervious surfaces, as with the proposed project, the proposed agricultural uses would not likely increase impervious surfaces compared to the proposed project. In addition, water demand from the proposed agricultural and residential uses would increase substantially in comparison to the proposed project due to the consistent demand from agricultural and residential uses. Additionally, the proposed agricultural and residential uses under this alternative would produce solid waste associated with the employees operating agricultural uses and the residential activities, that would need to be disposed of at local landfills.

As with the proposed project, conversion of the project site to agricultural and residential uses would require water usage for dust suppression as well as minimal generation of wastewater, usage of electrical power, natural gas, and telecommunications. In addition, construction of the General Plan and Zoning Build-Out Alternative would not substantially alter stormwater drainage. With regard to operation, the agricultural and residential uses would substantially increase water demand. Wastewater and solid waste generation associated with this alternative would also slightly increase compared to the proposed project due to the increase in the number of employees associated with the agricultural uses, as well as the residential activity. Development of the residential component of the General Plan and Zoning Build-Out Alternative would increase impervious surfaces compared to the proposed project. However, similar to the proposed project, the General Plan and Zoning Build-Out Alternative would implement Mitigation MM 4.10-1, would include measures to offset increases in stormwater runoff caused by the project and would further reduce impacts.

Although both the project and this alternative would result in less-than-significant impacts, the General Plan and Zoning Build-Out Alternative would result in greater impacts to utilities and service systems compared to the proposed project as this alternative would have an increased demand on the water supply and local landfills compared to the proposed project due to the proposed agricultural and residential uses.

Wildfires

Under the General Plan and Zoning Build-Out Alternative, portions of the project site zoned as A would be developed for agricultural uses (approximately 1,180 acres), portions of the project site zoned as E, would be developed with single-family residential units (approximately 1,078 acres), and portions of the project

site zoned PL RS would be developed with single-family residential units as well (approximately 27 acres). Impacts related to wildfires for the portion of the project site that would be developed for residential uses would be greater than the impacts generated by the proposed project as they propose uses that add increased human presence and may introduce additional vegetation associated with the residential development. Furthermore, the proposed agricultural uses may introduce additional sources of vegetation, which may serve as fuel and exacerbate wildfire risks. Additionally, the use of the project site for agriculture would result in an increase of employees on the project site, which would further increase potential impacts from wildfire risks. Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.14-1, which would require the development and implementation of a Fire Safety Plan for use during construction, operation, and decommissioning of the project, which would further reduce the fire risks on-site. With regard to the installation or maintenance of associated infrastructure, agricultural uses would not require any installation of associated infrastructure, however, residential uses would require installation of electrical infrastructure, similar to the proposed project. The installation of electrical infrastructure would not be placed within a high fire hazard zone and the vegetation would be cleared and thus would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would not include significant risks related to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Based on the above, with implementation of similar mitigation as proposed for the project, impacts would remain less than significant under this alternative as it relates to wildfire impacts. However, the General Plan and Zoning Build-Out Alternative would have greater impacts from risks associated with wildfires than the proposed project due to the agricultural and residential uses proposed under this alternative.

With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the General Plan and Zoning Build-Out Alternative and related projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

Comparison of Impacts

The General Plan and Zoning Build-Out Alternative would result in less impact to aesthetics, agricultural and forestry resources, and land use and planning. The alternative would result in similar impacts to biological resources, hazards and hazardous materials, and tribal cultural resources. This alternative would result in greater impacts in all remaining environmental issue areas. Greater impacts to air quality would result from emissions from the proposed agricultural uses on-site, such as agricultural vehicles and livestock emissions. Given the ground disturbance required, greater impacts would occur to potentially undiscovered cultural resources. This alternative would result in greater energy impacts as the project site would not generate renewable energy as compared to the proposed project, and would therefore, not assist the state in meeting its renewable energy generation goals. Greater impacts to geology and soils would result from greater initial soil disturbance during construction and greater potential to expose people to seismic hazards resulting from permanent human presence on-site from the proposed agricultural uses. This alternative would result in greater GHG emission impacts than the project because the potential offset or displacement of GHG emissions from operation of the solar power generating facility, compared with traditional gas- or coal-fired power plants, would not be realized. Greater impacts to hydrology and water quality would result

from continued ground disturbance from activities such as grazing and plowing and the application of pesticides or herbicides from the proposed agricultural uses. Greater impacts to noise would occur under this alternative during operation, through the noise associated with the daily operation of agricultural equipment and worker vehicles, as well as residential traffic. The increase in human population on-site is also responsible for greater impacts to public services, transportation, utilities and service systems, and wildfires. This alternative would not eliminate significant and unavoidable impacts associated with air quality (project and cumulative), and biological resources (cumulative only).

Relationship to Project Objectives

The General Plan and Zoning Build-Out Alternative would not achieve any of the project objectives listed above in Section 6.2, including the project's objective related to developing solar facilities to produce clean electricity to help achieve California's renewable energy goals.

6.7.3 Alternative 3: Reduced Acreage Alternative

Environmental Impact Analysis

Aesthetics

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres.

With regard to impacts related to scenic vistas, there are no local areas that are designated as scenic vistas within the vicinity of the project. However, the project site is located approximately 4.4 miles southwest of the PCT, which is designated as a National Scenic Trail by the U.S. Forest Service. The PCT is a public recreational facility recognized as offering views that can be considered scenic. However, given the 4.4-mile distance, views of the project site are likely non-existent and if there is a view, it would not be a predominant subject of views from the PCT. Impacts would be less than significant.

With regard to scenic resources, as discussed in the IS/NOP, the project would not be visible from any Officially Designated State or County Scenic Highway and impacts would remain less than significant under the Reduced Acreage Alternative.

While this alternative would avoid development of a portion of the project section, this alternative would also include the installation of solar panels and BESS and other facilities. Similar to the proposed project, the Reduced Acreage Alternative would similarly implement Mitigation Measures MM 4.1-1 through MM 4.1-3, which would reduce impacts to visual character and quality to the maximum extent feasible by requiring the preparation of a Maintenance, Trash Abatement, and Pest Management Program, requiring color-treating all the solar facilities, including gen-tie poles, array facilities, etc. to blend in with the colors found in the natural landscape to reduce color disharmony, and requiring preparation of a revegetation plan during construction and decommissioning. Nevertheless, similar to the proposed project, impacts would be significant and unavoidable. In addition, in combination with other projects, particularly the wind turbines and other solar development that exist near the project site, the Reduced Acreage Alternative would contribute to added cultural modifications in the project area. While Mitigation Measures MM 4.1-1 through MM 4.1-3 would be implemented to reduce aesthetics impacts, and other projects in the region would be required to

implement similar mitigation measures to reduce impacts, the conversion of thousands of acres in a presently rural area to solar and wind energy production uses cannot be mitigated to a degree that impacts are no longer significant. As such, similar to the project, cumulative impacts from the change to the visual character of the site would remain significant and unavoidable for the Reduced Acreage Alternative.

With regard to project impacts due to new sources of light or glare, this alternative would result in relatively less impact than the proposed project due to the reduced project footprint. Furthermore, per Mitigation Measure MM 4.1-4, any nighttime construction would use lighting designed to provide the minimum illumination needed, thereby minimizing adverse impacts on any nearby residents. Mitigation Measure 4.1-4 would also require the project to comply with the Dark Skies Ordinance for all lighting to be directed downward and shielded. Regarding glare, this alternative would also have to implement Mitigation Measures MM 4.1-5 and MM 4.1-6, which require the use of non-reflective and non-glare materials when feasible. Impacts related to light and glare on the Reduced Acreage Alternative site would still be less than significant. However, due to the reduction in project site size, the Reduced Acreage Alternative would have less impact to aesthetics than the proposed project.

Agriculture and Forestry Resources

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan area located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres.

The proposed project and the Reduced Acreage Alternative would be developed with a solar panels facility and associated infrastructure and, thus, would create changes in the existing environment and would convert land zoned for agriculture to non-agricultural use. Similar to the project, the project would not directly or indirectly impact farmland, as the site has no agricultural production, past or present and is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the project area. Furthermore, according to available data, none of the parcels included as part of the proposed project or any property in the vicinity of the project are subject to a Williamson Act Land Use contract.

Impacts to agriculture and forestry resources would still be less than significant. As the Reduced Acreage Alternative would include a slightly smaller footprint, impacts related to agriculture and forestry resources would be less than those of the proposed project.

Air Quality

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan area located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres, thereby reducing the overall extent of construction-related impacts to air quality. The use of construction vehicles, heavy equipment operation, and worker carpool trips would be similar compared to the proposed project, but grading and other construction activities would not occur on the southernmost portions of the site. However, the intensity of air quality emissions and fugitive dust from construction activities on daily basis would be similar as construction assumptions would be similar on a daily basis. Similar to the proposed project, this alternative would require implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 in order to reduce the severity of construction-related emissions. However, similar to the proposed project, impacts would remain significant and unavoidable for project-level and cumulative construction impacts as the daily emissions under this alternative and the proposed project during construction would be the same. Operational emissions would likely be reduced under this

alternative as fewer maintenance trips would be required with the reduced project scale. As such, operational impacts would be less than significant.

As it relates to impacts on implementation of the applicable air quality plan, since project-level and cumulative construction impacts would be significant and unavoidable, the Reduced Acreage Alternative would result in construction emissions of a magnitude that would obstruct the air quality planning goals set forth by EKAPCD. Therefore, similar to the project, impacts would be significant and unavoidable.

Implementation of this alternative would expose sensitive receptors to substantial pollutant concentrations. In particular, during construction of this alternative, it is possible that on-site workers could be exposed to Valley Fever as fugitive dust is generated during construction. However, dust-minimizing techniques, as implemented through Mitigation Measure MM 4.3-3, would reduce these impacts to less than significant. As with the proposed project, the Reduced Acreage Alternative would result in less-than-significant impacts related to toxic air contaminants, localized pollutant concentrations, and asbestos.

Overall, even with implementation of similar mitigation proposed for the project, impacts to air quality under this alternative would likely remain significant and unavoidable, despite resulting in a reduction in emissions due to reduced grading footprint under this alternative. The Reduced Acreage Alternative would result in less overall impacts related to air quality than the proposed project.

Biological Resources

As it relates to impacts on candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS), as with the proposed project, the Reduced Acreage Alternative would have an impact to transient wildlife species, including burrowing owls, loggerhead shrike, yellow-headed blackbird, other raptors, migratory birds, and desert kit fox. The project site contains habitat that support insects, rodents, and small birds that provide a prey base for raptors and terrestrial wildlife. In addition, based on the literature review and database search completed for the project, the region is known to support a diversity of special-status species, most of which are expected to utilize the project site on at least a transient basis. With implementation of Mitigation Measures MM 4.4-1 through MM 4.4-7, impacts would be reduced to less than significant. However, as this alternative would avoid disturbing 1,298 acres of land within the southern portion of the project site, the Reduced Acreage Alternative would directly reduce the project's impact to biological resources.

With regard to impacts on any riparian habitat or other sensitive natural community, or jurisdictional waters, identified in local or regional plans, policies, or regulations or by CDFW or USFWS, construction activities could result in significant impacts related to scale broom scrub, a riparian or wetland area east of the project site as well as jurisdictional features to ephemeral drainages within the project site. However, as with the project, implementation of Mitigation Measures MM 4.4-8 and MM 4.4-9 would reduce impacts to less than significant under the Reduced Acreage Alternative.

Implementation of the above referenced mitigation measures would also reduce potential impacts to state or federally protected wetlands, the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, and consistency with local policies and ordinances protecting biological resources. The Reduced Acreage Alternative, as with the proposed project, would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan.

Based on the above, project-level impacts under the Reduced Acreage Alternative would be less than significant with implementation of mitigation and similar to those of the proposed project. However, cumulatively, this alternative would still result in significant and unavoidable impacts to biological resources; regardless of the type of development, biological resources are being impacted throughout the Antelope Valley. However, as this alternative would avoid disturbing 1,298 acres of land within the southern portion of the project site, the Reduced Acreage Alternative would result in less impact related to native plant communities when compared to the proposed project. All other impacts related to biological resources would remain the same as the proposed project.

Cultural Resources

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan area located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres.

While no historical or archaeological resources were identified, ground-disturbing activities associated with the project have the potential to encounter undocumented archaeological resources that could qualify as historical resources. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.5-1 and MM 4.5-2. 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 Measure MM 4.5-3 would ensure that any human remains encountered are appropriately addressed and impacts would be less than significant.

Based on the above, implementing mitigation similar to the mitigation proposed for the project, impacts to cultural resources under this alternative would be less than significant. However, the Reduced Acreage Alternative would result in less impacts related to cultural resources compared to the proposed project due to the reduction in ground disturbance required under this alternative.

Energy

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan area located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres. Eliminating 1,298 acres from project development would result in reduced energy use, as the Reduced Acreage Alternative would generate approximately 55 MW, with up to 40 MW of Battery Storage capacity due to the proportional reduction in project size. Therefore, all construction and operational methods, workforce, and timing for the Reduced Acreage Alternative would be reduced as compared with the proposed project. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.6-1, which would require the use of energy-efficient and alternatively fueled equipment and ensure compliance with Title 13, California Code of Regulations, Section 2449 et seq., which imposes construction equipment idling restrictions. As such, the wasteful, inefficient, or unnecessary consumption of energy resources would be reduced in comparison with the proposed project. Similar to the proposed project, this alternative would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, impacts would be less than significant. The Reduced Acreage Alternative would result in fewer energy impacts compared to the proposed project.

Geology and Soils

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan area located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres, and thus there would be less potential for erosion and exposure to geologic hazards.

Similar to the proposed project, the Reduced Acreage Alternative would not directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault, seismic-related ground failure including liquefaction, unstable or expansive soils.

With regard to soils incapable of adequately supporting the use of septic tanks or alternative wastewater systems, similar to the proposed project, the Reduced Acreage Alternative would require the construction of a septic wastewater treatment system. However, the onsite soils have been characterized as well drained and moderate to highly permeable. In addition, similar to the proposed project, the Reduced Acreage Alternative's septic system would be required to be permitted through the Kern County Public Health Services Department which includes a permitting process to ensure adequate drainage of wastewater. As it relates to unique paleontological resource or site or unique geologic feature, similar to the proposed project, under the Reduced Acreage Alternative any ground disturbance within the project site could result in a potentially significant impact to paleontological resources. As such, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.7-1 through MM 4.7-3 to reduce impacts to paleontological resources. Therefore, impacts would be less than significant.

As discussed above, with implementation of mitigation similar to that required for the proposed project, impacts to geology and soils would likely be less than significant. However, impacts to geology and soils would result in less impact to geology and soils compared to the proposed project due to the reduction in ground disturbance required under this alternative.

Greenhouse Gas Emissions

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres. Given a smaller project footprint than the proposed project, the construction and operational impacts from the Reduced Alternative would remain less than the proposed project. Therefore, the Reduced Acreage Alternative would result in fewer GHG emissions during construction and operations when compared with the proposed project. Eliminating 1,294 acres from project development would result in reduced energy generation, as the Reduced Acreage Alternative would generate approximately 55 MW, with up to 40 MW of Battery Storage capacity due to the proportional reduction in project size. Nevertheless, impacts would be less than significant. Therefore, the Reduced Acreage Alternative would result in similar overall impacts related to GHG emissions compared to the proposed project.

Hazards and Hazardous Materials

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres.

Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.17-1 in order to avoid spills and minimize impacts in the event of a spill;

regulate the use of hazardous materials during construction and operation, including the use of pesticides and herbicides; and ensure that wastes requiring special disposal are handled according to state and county regulations that are in effect at the time of disposal, respectively. Implementation of these mitigation measures would reduce impacts related to a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. With regard to hazardous emissions within 0.25 miles of a school, the nearest school to the project site is located approximately 6 miles southeast of the site, and therefore, the project would result in no impact related to hazardous emissions within 0.25 miles of a school.

As it relates to wildland fires, the project site is not within an area of high or very high fire hazard. However, similar to the project, the Reduced Acreage Alternative would include a battery 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 Measure MM 4.14-1 would be implemented which includes the development and implementation of a fire safety plan for construction and operation of the project in the event of a fire on the project site.

Impacts under the Reduced Acreage Alternative and the project would result in less-than-significant impacts after implementation of mitigation measures and the potential impacts from hazards and hazardous materials under the Reduced Acreage Alternative would be similar to those of the proposed project.

Hydrology and Water Quality

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres. The reduced footprint would result in slightly reduced grading activities and would reduce the amount of impervious surfaces compared to the proposed project.

Similar to the proposed project, the Reduced Acreage Alternative would include completion of a NPDES completion form as well as implementation of Mitigation Measure MM 4.9-1 in order to reduce potential impacts related to violating water quality standards or degradation of surface or groundwater quality during construction and operation of the Reduced Acreage Alternative. As it relates to groundwater supplies, water requirements under the Reduced Acreage Alternative, similar to the proposed project, would be relatively small and would represent a small portion of the established safe yield of the basin, and would not substantially deplete groundwater levels in comparison to existing conditions. As such, impacts would be less than significant.

With regard to existing drainage patterns, installation of the facilities required under the Reduced Acreage Alternative would alter existing on-site drainage patterns and flowpaths to some degree, and could alter the way that stormwater from upgradient flows across the project site during major events. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.10-1, which requires the project to: (1) ensure that the retention basins and other stormwater management features are consistent with existing regulatory requirements and can minimize any erosion or sedimentation to less-than-significant levels; (2) ensure that flooding onsite or offsite is reduced to less-than-significant levels; and (3) minimize potential increases in stormwater flow and other project-induced changes to drainage patterns to less-than-significant levels.

The project site is located well inland and far from the ocean or any enclosed or semi-enclosed water body such that there would be no potential threat from tsunami or seiche hazards and impacts would be less than

significant. In addition, water for construction and operation phases under the Reduced Acreage Alternative would be obtained from a nearby well or trucked onto the site from a local purveyor and would be subject to the requirements of the adjudicated basin management. Therefore, the project would not conflict with the groundwater management of the area and the potential impacts would be less than significant.

Overall, impacts related to hydrology and water quality would be less than significant. However, the Reduced Acreage Alternative would have less impact related to hydrology and water quality compared to the proposed project due to the reduced footprint, which would result in reduced grading activities and would reduce the amount of impervious surfaces compared to the proposed project.

Land Use and Planning

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres. Nevertheless, development of the Reduced Acreage Alternative alone would still require a CUP, and General Plan Amendment to operate a solar facility with BESS on the project site. Impacts would be less than significant under this alternative. Land use and planning impacts would be similar under the Reduced Acreage Alternative when compared to the project.

Noise

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan area located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres. Under the Reduced Acreage Alternative all construction and operational methods, workforce, and timing would be reduced when compared with the proposed project.

Under this alternative, similar to the proposed project, construction and decommissioning activities would result in the generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards, similar to the project. Impacts during construction and decommissioning would be significant and unavoidable. While impacts during operation would be potentially significant due to the operation of the BESS, impacts would be reduced through the implementation of Mitigation Measure MM 4.12-14. Thus, operational impacts would be less than significant. In addition, the closest off-site occupied residential structures would be located over 6,336 feet from construction activities. As such, the vibration levels at the nearest residences would not reach the vibration level threshold for older residential structures. Operation of the Reduced Acreage Alternative would involve mostly regular maintenance trucks accessing the project site and panel washing activities, similar to the proposed project, that would be a sufficient distance from structures (i.e., over 100 feet away from structures). As such, vibration impacts would be minimal and are not expected to have any measurable effect on the adjacent off-site sensitive receivers.

This alternative is expected to result in significant and unavoidable noise impacts during construction and decommissioning activities and impacts related to noise would be similar to those of the proposed project. This alternative is expected to result in less than significant with mitigation noise impacts during operational activities and impacts related to noise would be less than those of the proposed project given the reduced footprint and similar time period of temporary noise impacts.

Population and Housing

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan area located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres. Under the Reduced Acreage Alternative all construction and operational methods, workforce, and timing would be reduced when compared with the proposed project.

Similar to the proposed project, construction of the Reduced Acreage Alternative would result in a number of construction workers on the project site and increased local population. However, construction workers are expected to travel to the site from various 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 community of Rosamond. Therefore, the Reduced Acreage Alternative would not directly or indirectly induce the development of any new housing or businesses.

Furthermore, operation of the project under the Reduced Acreage Alternative would require no permanent full-time and potentially up to five part-time staff. Given the scope of the existing population and available housing in the area, this increase is not considered significant. Based on the above, impacts would be less than significant under this alternative and impacts related to population and housing would be similar, but less, than those of the proposed project.

Public Services

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan area located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres. Under the Reduced Acreage Alternative all construction and operational methods, workforce, and timing would be reduced when compared with the proposed project.

Similar to the proposed project, construction of the Reduced Acreage Alternative would result in a number of construction workers on the project site and increased fire service demands would occur during construction of this alternative. However, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.14-1, which would require the implementation of a fire safety plan. During operation, the project site would not require any additional employees to be on-site on a permanent basis. Similar to the project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.14-2, which would require the project operator to pay Kern County development impact fees to compensate for any permanent impacts to fire protection services and facilities resulting from the operation of this alternative. Implementation of Mitigation Measure MM 4.14-1 would also reduce fire risks on-site during operation of this alternative. Impacts related to fire protection would be less than significant with mitigation.

With regard to police protection, while the project site is located in an area that is unlikely to attract attention, construction activities would increase traffic volumes along SR 58 and SR 14, similar to the proposed project. The increase in traffic would be temporary and thus would not have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. In addition, chain-link security fencing would be installed around the site perimeter and other areas requiring controlled access during construction. During operation of this alternative, the additional volume of vehicles associated with workers commuting to the project site during routine maintenance would be minor and is not expected to adversely affect traffic. Therefore, the increase is not likely to have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. Impacts would be less than significant.

With regard to schools, parks, and other government facilities, similar to the proposed project, under the Reduced Acreage Alternative, construction workers would likely come from an existing local and/or regional construction labor force and would not likely relocate their households as a consequence of working on the project. Therefore, the short-term increased employment of construction workers on the project site would not result in a notable increase in the residential population of the area surrounding the project site. Accordingly, there would not be a corresponding demand or use of the local schools, parks, or public facilities. During operations under the Reduced Acreage Alternative, fewer staff would be required to operate the O&M facility than under the proposed project. However, similar to the proposed project, this staff would likely come from an existing local and/or regional labor force and would not likely relocate their households as a consequence of working on the project. Therefore, the increase of onsite staff at the project site would not result in a notable increase in the residential population of the area surrounding the project site under the Reduced Acreage Alternative. Accordingly, there would not be a corresponding demand or use of the local schools, parks, or public facilities, and, similar to the proposed project, there would be no impact.

Based on the above, impacts would be less than significant under this alternative following implementation of similar mitigation measures proposed for the project and impacts related to public services would be similar to those of the proposed project.

Transportation

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan area located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres. Under the Reduced Acreage Alternative all construction and operational methods, workforce, and timing would be reduced when compared with the proposed project.

Similar to the proposed project, during construction of the Reduced Acreage Alternative, which would require similar construction trips for installation of the solar panels, all study roadway segments are forecasted to operate at Caltrans- or County-defined acceptable LOS C conditions or better. During operation of this alternative, day to day operations and maintenance trips would be reduced in comparison with those of the proposed project. Similar to the proposed project, the total number of daily trips for maintenance of the solar panels are estimated to be less than the number of trips generated during construction. As construction impacts would be less than significant, operation of this alternative would also have a less-than-significant impact on area roadways.

With regard to consistency with CEQA *Guidelines* Section 15064.3, subdivision (b), as regulations of SB 743 have not been finalized or adopted by the County, automobile delay remains the measure used to determine the significance of a transportation impact. Therefore, impacts related to CEQA *Guidelines* Section 15064.3, subdivision (b) would be less than significant under the Reduced Acreage Alternative, as with the proposed project.

Based on the above, impacts would be less than significant. Given the similarity between this alternative's and the proposed project's construction and operational vehicle and truck trips, the Reduced Acreage Alternative would result in similar impacts related to transportation as the proposed project.

Tribal Cultural Resources

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan area located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres. According to record searches and tribal resource consultations, no tribal resources are present on the project site. Furthermore, with implementation of Mitigation Measure MM 4.5-2, potential impacts to tribal cultural resources would be further minimized. Therefore, similar to the proposed project, and with implementation of Mitigation Measure MM 4.5-2, impacts to tribal cultural resources and impacts to tribal cultural resources would be less than significant under the Reduced Acreage Alternative.

Utilities and Service Systems

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan area located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres. Eliminating 1,298 acres from project development would result in reduced demand for utilities and service systems, as the Reduced Acreage Alternative would generate approximately 55 MW, with up to 40 MW of Battery Storage capacity due to the proportional reduction in project size, and therefore, all construction and operational methods, workforce, and timing for the Reduced Acreage Alternative would be reduced in comparison with the proposed project.

As with the proposed project, installation of solar panels would require water usage for dust suppression as well as minimal generation of wastewater, usage of electrical power, natural gas, and telecommunications. In addition, construction of the Reduced Acreage Alternative would not substantially alter stormwater drainage. With regard to operation, the solar panels installed under the Reduced Acreage Alternative would require a reduced water demand in comparison with the proposed project. Wastewater and solid waste generation associated with this alternative would also be reduced compared to the proposed project due to the reduced number of employees required for maintenance of the solar panels. As the Reduced Acreage Alternative would develop the project site, impervious surfaces would be minimized as much as possible, as with the proposed project. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.10-1, would include measures to offset increases in stormwater runoff caused by the project and would further reduce impacts.

This alternative is expected to result in less-than-significant impacts to utilities and service systems and impacts would be similar to those of the proposed project.

Wildfires

Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan area located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres.

Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.14-1, which would require the development and implementation of a Fire Safety Plan for use during construction, operation, and decommissioning of the project, which would further reduce the fire risks on-site. With regard to the installation or maintenance of associated infrastructure, solar panels would require installation of the electrical collector line, similar to the proposed project. The installation of the electrical collector line would not be placed within a high fire hazard zone and the vegetation would be cleared and thus would not result in increased fire risks that could result in temporary or ongoing impacts to the

environment. Similar to the proposed project, the Reduced Acreage Alternative would not include significant risks related to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

With implementation of similar mitigation proposed for the project, this alternative is expected to result in less-than-significant impacts to wildfires. The Reduced Acreage Alternative would likely result in slightly less impact than the proposed project due to the reduced footprint compared with the proposed project.

With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the Reduced Acreage Alternative and related projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

Comparison of Impacts

The Reduced Acreage Alternative would be reduced in size compared to the proposed project, and would generate approximately 55 MW, with up to 40 MW of Battery Storage capacity due to the proportional reduction in project size and therefore, all construction and operational methods, workforce, and timing for the Reduced Acreage Alternative would be reduced in comparison with the proposed project. Due to the reduced footprint, the Reduced Acreage Alternative would result in less or similar impacts for all of the environmental issue areas. However, this alternative would not eliminate significant and unavoidable impacts associated with aesthetics (cumulative only), air quality (project and cumulative), noise (project and cumulative), biological resources (cumulative only), and wildfires (cumulative).

Relationship to Project Objectives

The Reduced Acreage Alternative would meet most of the project objectives listed above in Section 6.2. Under the Reduced Acreage Alternative, the project would avoid developing within the Willow Springs Specific Plan area located within the southern portion of the project site and would reduce the project's footprint from 2,285 acres to 987 acres. Therefore, this alternative would create fewer environmental impacts; however, it would not reduce any identified significance and unavoidable impact to less than significant.

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

Environmental Impact Analysis

Aesthetics

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Antelope Valley.

With regard to impacts related to scenic vistas, the quality of the existing scenic vista from both KOP 1 and KOP 5 is considered moderate to low given the existing visible solar facilities and wind turbines. Under, the No Ground-Mounted Utility-Solar Development Alternative solar installation would occur on the roofs of the existing buildings. Thus, given the moderate to low visual quality and existing visual obstructions, the No Ground-Mounted Utility-Solar Development Alternative would not have a substantial adverse effect on a scenic vista. Impacts would be less than significant.

The installation of small to medium solar PV systems on large commercial and industrial rooftops would be visually unobtrusive or unnoticeable from receptors at ground level. However, from other vantage points, the installation of rooftop small to medium solar PV systems may be visible, but would not likely affect the visual character or quality of an area, because the character or quality of an area has already been altered as a result of the existing building's construction. The exceptions may be if rooftop solar were proposed on historic buildings, which could affect the historic character and integrity of the buildings. Implementation of this alternative would require historic surveys and investigations to evaluate the eligibility of potentially historic structures that are over 50 years old, and either avoidance of such buildings, or incorporation of design measures to minimize impacts on historic integrity of historically significant structures.

Based on the above, this alternative would avoid significant and unavoidable aesthetic impacts that would occur under the proposed project. With implementation of mitigation measures to address impacts related to historic buildings, impacts would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to aesthetics compared to the proposed project.

Agriculture and Forest Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Since the solar PV systems proposed for this alternative would be constructed on existing structures, this alternative would not create any changes in the existing environment that would convert land that is designated Farmland to non-agricultural use. As such, no impacts to agriculture or forestry resources would occur. Therefore, the No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to agricultural resource compared to the proposed project.

Air Quality

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Under this alternative, no construction activities associated with ground disturbance would occur. Thus, this alternative would eliminate the significant and unavoidable 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. The reduction in construction activities would also reduce the exposure of sensitive receptors to substantial pollutant concentrations, including valley fever. Implementation of Mitigation Measure MM 4.3-3 would not be required. During operation, this alternative would have similar impacts on air quality as the proposed project related to occasional vehicular visits for maintenance. As such, operational impacts would be less than significant. Overall, air quality impacts under this alternative would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to air quality compared to the proposed project.

Biological Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the 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 any riparian habitat. As such, Mitigation Measures MM 4.4-1 through MM 4.4-14 would not be required. Operation of the small to medium solar PV systems would continue to require implementation of Mitigation Measures MM 4.4-11 through MM 4.4-14. Therefore, this alternative would not contribute to a cumulative loss of foraging and nesting habitat for burrowing owls, Swainson's hawk, other raptors, desert kit fox, and migratory bird species. As such, significant and unavoidable cumulative impacts would be eliminated as well. The No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to biological resources compared to the proposed project.

Cultural Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Antelope Valley. Given that development would occur on the rooftops of existing structures, there would be no potential for disturbance or damage to buried archaeological resources and human remains. If rooftop solar systems were proposed on historic buildings, this alternative could affect the historic character and integrity of these buildings, as well as the character and views of adjacent historical resources. However, historic surveys and investigations would be conducted prior to project construction to identify known eligible historical resources and to evaluate the eligibility of potentially historic structures that are 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. However, given the inability to impact archaeological resources under this alternative, the No Ground-Mounted Utility-Solar Development Alternative would result in fewer impacts related to cultural resources compared to the proposed project.

Energy

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Antelope Valley. As such, this alternative would not require implementation of Mitigation Measure MM 4.6-1 as construction would be limited to trucks transporting the solar panels and installation of the solar panels on the rooftops of existing buildings. Therefore, the No

Ground-Mounted Utility-Solar Development Alternative would have a less-than-significant impact related to wasteful, inefficient, or unnecessary consumption of energy resources and this alternative would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. As similar energy generation capabilities would be provided, impacts would be similar to those of the proposed project.

Geology and Soils

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Antelope Valley. Given that only developed areas would be modified, there would be no potential for this alternative to directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault or strong seismic ground shaking; result in substantial soil erosion or loss of topsoil; or directly or indirectly destroy a unique paleontological resource or unique geologic feature. This alternative would not require implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3. Development of rooftop solar would require adherence to all requirements of the Kern County Building Ordinance. Therefore, impacts would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less impact related to geology and soils compared to the proposed project.

Greenhouse Gas Emissions

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. This alternative would not generate GHG emissions from heavy equipment required for ground disturbing activities, but distributed systems on rooftops would lack tracking systems and be less efficient. As such, this alternative's overall GHG emission offset potential would be smaller to the proposed project. Therefore, this alternative would have less-than-significant impacts related to generating GHG emissions that may have a significant impact on the environment or consistency with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. However, impacts related to GHG emissions would be greater under this alternative due to the lower efficiency of the distributed systems, which would not include solar tracking technology.

Hazards and Hazardous Materials

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Antelope Valley. The installation of rooftop solar equipment on existing structures would involve fewer hazardous materials (such as chemicals and fuels) than the proposed project construction on the undeveloped project site. Similar to the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would implement Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.17-1 in order to avoid spills and minimize impacts in the event of a spill; regulate the use of hazardous materials during construction and operation; and ensure that wastes requiring special disposal are handled according to state and county regulations that are in effect at the time of disposal, respectively. Implementation of these mitigation measures would reduce impacts related to a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As it relates to wildland fires, as the small to medium solar PV

systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the 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 require a battery storage component. However, due to the numerous power lines that would be required to harness the distributed solar panel energy, this alternative could exacerbate fire risks. As such, similar to the proposed project, Mitigation Measure MM 4.14-1 would be implemented to reduce wildfire risks under this alternative.

Based on the above, impacts under this alternative would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less impact related to hazards and hazardous materials than the proposed project as this alternative would require usage of fewer hazardous materials.

Hydrology and Water Quality

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Antelope Valley. No ground disturbance related to construction would be required under this alternative.

While completion of NPDES completion forms would not be required under the No Ground-Mounted Utility-Solar Development Alternative, similar to the proposed project, this alternative would require implementation of Mitigation Measure MM 4.9-1 in order to reduce potential impacts related to violating water quality standards or degradation of surface or groundwater quality during construction and operation of the No Ground-Mounted Utility-Solar Development Alternative.

As it relates to groundwater supplies, water requirements under the No Ground-Mounted Utility-Solar Development Alternative, similar to the proposed project, would be relatively small and would represent a small portion of the established safe yield of the basin, and would not substantially deplete groundwater levels in comparison to existing conditions. This alternative would also likely require minimal water as no dust suppression or concrete mixing would be required during construction and operational panel washing is expected to be less frequent given the location of panels on top of buildings throughout the Antelope Valley (rather than directly on sediment). As such, impacts would be less than significant.

With regard to existing drainage patterns, as small to medium solar PV systems would be developed on the rooftops of existing commercial and industrial facilities situated throughout the 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. In addition, water for construction and operation phases under the No Ground-Mounted Utility-Solar Development Alternative would be obtained from a nearby well or trucked to the solar panels from a local purveyor and would be subject to the requirements of the adjudicated basin management. Therefore, the project would not conflict with the groundwater management of the area and the potential impacts would be less than significant.

Overall, impacts related to hydrology and water quality would be less than significant. However, the No Ground-Mounted Utility-Solar Development Alternative would result in less overall impacts related to hydrology and water quality materials compared to the proposed project as this alternative would not require ground disturbance, which could potentially introduce more pollutants to stormwater, and water

requirements during construction and operation of the this alternative would be reduced as no dust suppression or concrete mixing would be required during construction and operational panel washing is expected to be less frequent.

Land Use and Planning

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Antelope Valley. Under this alternative, there would be no CUPs, General Plan or Specific Plan Circulation Element Amendment or public access vacations required. Installation of rooftop solar would be consistent with current zoning as well as existing land use plans, policies, and regulations. The No Ground-Mounted Utility-Solar Development Alternative would also achieve the County's goals and policies relative to accommodating renewable energy facilities. However, the placement of solar panels on other structures throughout the region would result in unknown entitlement requirements, depending on the project location, zoning, land use, and potential environmental impacts on the site and surrounding areas. Nonetheless, to allow such development, the project proponent would be required to comply with the specific entitlements needed to construct solar PV systems consistent with this alternative. Impacts would be less than significant. Impacts to land use and planning under the No Ground-Mounted Utility-Solar Development Alternative would be greater than the proposed project.

Noise

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Rooftops of existing commercial and industrial buildings that would be developed under this alternative would be in developed areas. As a result, noise related to construction activities would likely impact sensitive receptors during construction. The operational noise generated from these solar PV systems would be similar to that of the proposed project and would result in less-than-significant impacts. With regard to vibration, construction of the No Ground-Mounted Utility-Solar Development Alternative would not require the use of vibratory rollers or other construction equipment with high groundborne vibration levels. Therefore, it is likely that construction vibration would have a less than significant construction vibration impact. Similar to the proposed project, operation of the No Ground-Mounted Utility-Solar Development Alternative would require regular maintenance trucks (0.076 in/sec PPV) and panel washing activities. Whether rooftop solar systems are proposed on historic buildings, which are more susceptible to vibration damage, or other types of newer buildings, this level of vibration would not exceed vibration thresholds and, as such, would result in less-than-significant impacts.

As discussed above, construction and operational vibration and noise impacts would be less than significant. Therefore, the No Ground-Mounted Utility-Solar Development Alternative would result in similar impacts related to construction noise than the proposed project.

Population and Housing

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Antelope Valley and the project site would remain undeveloped. Unlike the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would not introduce structures into a currently undeveloped area and is not expected to

temporarily or permanently increase the concentration of persons in an area. Therefore, the No Ground-Mounted Utility-Solar Development Alternative would result in fewer impacts related to population and housing than the proposed project.

Public Services

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Antelope Valley and the project site would remain undeveloped. Unlike the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would not introduce structures into a currently undeveloped area and is not expected to temporarily or permanently increase the concentration of persons in an area.

With regard to fire protection, it is expected that the areas where the solar PV systems would be installed in more urbanized areas. In addition, this alternative would not require a battery storage component. However, due to the numerous power lines that would be required to harness the distributed solar panel energy, this alternative could exacerbate fire risks. As such, similar to the proposed project, Mitigation Measure MM 4.14-1 would be implemented to reduce wildfire risks under this alternative. In addition, similar to the proposed project, in the event that a fire occurs during operation of the No Ground-Mounted Utility-Solar Development Alternative, this alternative would implement Mitigation Measure MM 4.14-2, which would require the project operator to pay Kern County development impact fees to compensate for any permanent impacts to fire protection services and facilities resulting from the operation of this alternative. Impacts related to fire protection would be less than significant with mitigation.

With regard to police protection, as the proposed small to medium solar PV systems would be installed in more urbanized areas on existing buildings, it is unlikely that construction and operation of the No Ground-Mounted Utility-Solar Development Alternative would attract attention. Similar to the proposed project, this alternative would increase traffic with truck trips during construction and routine maintenance during operation of this alternative. However, the additional volume of trips during construction and operation would be minimal and would not likely have a significant and adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. Impacts would be less than significant.

Based on the above, impacts are expected to be less than significant with mitigation. The No Ground-Mounted Utility-Solar Development Alternative would result in less impact related to public services compared to the proposed project as the proposed small to medium solar PV systems would be developed in urbanized areas that already receive fire and police protection services.

Transportation

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Antelope Valley.

Similar to the proposed project, this alternative would require vehicular trips during construction to transport and install the solar panels. However, the trips would be more dispersed than the proposed project given the location of the existing facilities, thereby reducing impacts on the roadways surrounding the project site. As such, roadway segments within the Antelope Valley are not expected to operate at levels that would trigger a significant transportation impact during construction of this alternative. During

operation of this alternative, day to day operations and maintenance trips would be similar to those of those of the proposed project. However, as with construction, these maintenance trips would be more dispersed than the proposed project given the location of the existing facilities. It is also estimated that the total number of daily trips for maintenance of the solar panels are less than the number of trips generated during construction. As construction impacts would be less than significant, operation of this alternative would also have a less-than-significant impact on area roadways.

With regard to consistency with CEQA *Guidelines* Section 15064.3, subdivision (b), as regulations of SB 743 have not been finalized or adopted by the County, automobile delay remains the measure used to determine the significance of a traffic impact. Therefore, impacts related to CEQA *Guidelines* Section 15064.3, subdivision (b) would be less than significant under the No Ground-Mounted Utility-Solar Development Alternative, as with the proposed project.

Based on the above, impacts would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less impact related to transportation compared to the proposed project.

Tribal Cultural Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Antelope Valley. It is unlikely that the proposed rooftop solar systems would have an impact on tribal cultural resources. However, prior to construction of this alternative, the Native American Heritage Commission will be contacted for a search of the Sacred Land File for the No Ground-Mounted Utility-Solar Development Alternative construction area. In addition, the County will conduct additional consultation with California Native American tribes on the County's Master List for AB 52, apprising them of the alternative project description. Due to the nature of the No Ground-Mounted Utility-Solar Development Alternative, it is highly unlikely to have an impact on tribal cultural resources. It is anticipated that the Sacred Land File and consultation would not result in the identification of any tribal cultural resources that could be impacted by the No Ground-Mounted Utility-Solar Development Alternative directly or indirectly, however should it be determined the potential exists, this alternative will avoid impacting any such resources through avoidance and re-design. As such, The No Ground-Mounted Utility-Solar Development Alternative would have no impact to tribal cultural resources and no mitigation would be required. Furthermore, the No Ground-Mounted Utility-Solar Development Alternative would result in fewer impacts related to tribal cultural resources compared to the proposed project.

Utilities and Service Systems

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Antelope Valley.

With regard to water demand, this alternative would likely require minimal water as no dust suppression or concrete mixing would be required during construction. This alternative would also require minimal generation of wastewater, usage of electrical power, natural gas, and telecommunications. In addition, construction of the No Ground-Mounted Utility-Solar Development Alternative would not substantially alter stormwater drainage. With regard to operation, solar panel washing is expected to be less frequent, as compared to the proposed project, given the location of panels on top of buildings throughout the Antelope

Valley (rather than directly on sediment). Wastewater and solid waste generation associated with this alternative would be similar to the proposed project due to the similar number of employees required for maintenance of the solar panels. As the No Ground-Mounted Utility-Solar Development Alternative would not develop the project site, this alternative would not result in impervious surfaces and implementation of Mitigation Measures MM 4.10-1 would not be required.

Based on the above, impacts to utilities and service systems would be less than significant. This alternative would result in less overall impacts related to utilities and service systems than the proposed project.

Wildfires

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Antelope Valley. Due to the numerous power lines that would be required to harness the distributed solar panel energy, this alternative could exacerbate fire risks above that of the proposed project. As such, similar to the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would implement Mitigation Measure MM 4.14-1, which would require the development and implementation of a Fire Safety Plan for use during construction, operation, and decommissioning of the project, which would further reduce the fire risks. With regard to the installation or maintenance of associated infrastructure, solar panels would require installation of the electrical collector line, similar to the proposed project. The installation of the electrical collector line would not be placed within a high fire hazard zone and thus would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Similar to the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would not include significant risks related to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

With implementation of similar mitigation, this alternative is expected to result in less-than-significant impacts to wildfires. The No Ground-Mounted Utility-Solar Development Alternative would likely result in slightly less impact than the proposed project as solar panels would be located in more urbanized areas.

With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the No Ground-Mounted Utility-Solar Development Alternative and related projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

Comparison of Impacts

The No Ground-Mounted Utility-Solar Development Alternative would result in less impact related to aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, population and housing, noise, public services, transportation, tribal cultural resources, and utilities and service systems. Further, this alternative would avoid the significant and unavoidable impacts to aesthetics (cumulative only), air quality (project and cumulative), biological resources (cumulative only), and noise (project and cumulative) that would occur under the proposed project.

Relationship to Project Objectives

This alternative would satisfy some of the project objective of assisting California in reducing GHG emissions. However, up to 60 MW of BESS (a component of the proposed project) would not be constructed under this alternative. The alternative would not achieve other project objectives including utilizing existing transmission infrastructure to minimize costs. It is also unlikely the project would have an average insolation value of 6 kWh/m²/day or greater given the lack of efficiency of rooftop solar compared to solar tracking technology. Additionally, there are some drawbacks to this alternative that include, but not limited to those listed below.

Up to 60 MW of BESS is not included.

The system would not likely be built out within a timeframe that would be similar to that of the proposed project.

Given the distributed nature of such a network of facilities, construction, management, and maintenance would not be as efficient, and total capital costs would likely be higher.

The project proponent does not have immediate control or access to potential urban sites that could accommodate facilities to generate 128 MW of solar power.

A distributed system of the scale of the project would be cost-prohibitive.

This alternative theoretically has the potential to generate of up to 128 MW of electricity but it would be used on the sites generating the power, and would not achieve the project objective of assisting California load-serving entities in meeting their obligations under California's RPS Program. Additionally, this alternative does not include up to 60 MW of BESS. Given the size of the proposed project, the project objectives, and the need to arrange a suitable assemblage of participating commercial and industrial properties, it is impractical and infeasible to propose a distributed generation project of this type and still proceed within a reasonably similar timeframe.

6.8 Environmentally Superior Alternative

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

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

Because the No Project Alternative cannot be the Environmentally Superior Alternative under CEQA, the Environmentally Superior Alternative is considered to be the No Ground-Mounted Utility-Solar Development Alternative. This alternative would avoid significant and unavoidable impacts to aesthetics, air quality, biological resources, and noise. 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 it would not include up to 60 MW of BESS. This alternative could potentially result in greater impacts to land use and wildfire risks due to the numerous power lines that would be required to harness the distributed solar panel energy. However, the No Ground-Mounted Utility-Solar Development Alternative would reduce the significant and unavoidable impact as it relates to construction noise. In addition, this alternative would result in less impact to aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, public services, transportation, and utilities and service systems. Thus, for most environmental issue areas, this alternative would result in fewer environmental impacts, both short-term and long-term, when compared to the proposed project.

It is important to note that it is considered to be impracticable and infeasible to construct the No Ground-Mounted Utility-Solar Development Alternative within the same timeframe and/or with the same efficiency as the proposed project because the project proponent lacks control and access to the sites required to develop 128 MW of distributed solar generated electricity and the required land associated to support up to 60 MW of BESS. In addition, this alternative would not achieve the project objective of assisting California load-serving entities in meeting their obligations under California's RPS Program. Nonetheless, because this alternative reduces impacts to a greater degree than the General Plan and Zoning Build-Out Alternative and Reduced Acreage Alternative, the No Ground-Mounted Utility-Solar Development Alternative is considered the Environmentally Superior Alternative.

Chapter 7

Response to Comments

This chapter is being reserved for, and will be included with, the Final EIR.

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Chapter 8

Organizations and Persons Consulted

8.1 Federal

Edwards Air Force Base	U.S. Department of Agriculture, Natural Resource Conservation Service
China Lake Naval Weapons Center	U.S. Environmental Protection Agency Region IX
Federal Aviation Administration	U.S. Fish and Wildlife Service
Federal Communications Commission	U.S. Marine Corps
U.S. Air Force	U.S. Navy
U.S. Army	U.S. Postal Service
U.S. Army Corp of Engineers	
U.S. Bureau of Land Management	

8.2 State of California

California Air Resources Board	California Public Utilities Commission, Energy Division
California Department of Conservation	California Regional Water Quality Control Board, Lahontan Region
California Department of Fish & Wildlife, Fresno Region	California State Clearinghouse
California Department of Toxic Substances Control	California State Lands Commission
California Department of Water Resources	California State University Bakersfield
California Energy Commission	Caltrans District 6
California Native American Heritage Commission	Caltrans District 9

8.3 Regional and Local

Adams, Broadwell, Joseph & Cardozo	Kern County Fire Department	Southern California Edison
AES Midwest Wind Generation	Kern County Library Beale Branch	Structure Cast
California Farm Bureau	Kern County Library Ridgecrest Branch	Tehachapi Area Association of Realtors
Center on Race, Poverty & the Environment/California Rural Legal Assistance Foundation	Kern County Local Agency Formation Commission	Terra-Gen Power, LLC
Congentrix Sunshine, LLC	Kern County Parks and Recreation	The Gorman Law Firm
Defenders of Wildlife		Tulare County Planning and Development Department
		Renewal Resources Group

EDP Renewables Company	Kern County Council of Governments	Mojave Town Council
East Kern Air Pollution Control District	Kern County Agriculture Department	National Public Lands News
Eastern Kern Resource Conservation District	Kern County Airports Department	Native American Heritage Council of Kern County
EcoPlexus, Inc.	Kern County Environmental Health Services Department	Pacific Gas & Electric Company
Fotowatio Renewable Ventures Golden Hills	Kern County Public Works Department	Pleistocene Foundation
Inyokern Community Services District	Kern County Sheriff's Department	Recurrent Energy
Avangrid Renewables	Kern County Superintendent of Schools	Santa Barbara County Resource Management Department
Indian Wells Valley Airport District	Kern County Water Agency	San Bernardino County Planning Department
Indian Wells Valley Water District	Kern Valley Indian Council	Sierra Club
Indian Wells Water Management Committee	Kings County Planning Agency	Sierra Sands Unified School District
Inyo County Planning Department	Laborers' International Union of North America (LIUNA)	South San Joaquin Valley Archaeological Information Center
Inyokern Airport	Los Angeles Audubon	Ventura County Resource Management Agency, Planning Division
Kelly Group	Los Angeles County Regional Planning Department	Verizon California, Inc.
Kern Audubon Society	Lozeau Drury LLP	Wind Stream, LLC
Kern County Administrative Officer	Mojave Foundation	

8.4 Other

Chumash Council of Bakersfield	Tubatulabals of Kern County
Kitanemuk & Yowlumne Tejon Indians	Tule River Indian Tribe
Santa Rosa Rancheria Tribe	Tejon Indian Tribe

9.1 Lead Agency

Kern County Planning and Natural Resources Department

Lorelei H. Oviatt, AICP – Director

Craig M. Murphy – Assistant Director

Katrina A. Slayton – Advanced Planning Division Chief

Terrance Smalls – Supervising Planner

9.2 Technical Assistance

Environmental Science Associates (ESA)

Charles Smith – Project Director

Kimberly Comacho – Project Manager

Aaron Weiner – Deputy Project Manager and Technical Analyst

Eric Schniewind – Senior Geologist, Hydrologist, and Hazardous Materials Analyst

Alan Sako – Senior Air Quality Analyst

Jacqueline De La Rocha – Senior Air Quality Analyst

Olivia Chan – Senior Noise Analyst

Jaclyn Catino-Davenport – Senior Biological Resource Analyst

Michael Bever – Senior Archaeologist

Michael Vader – Cultural Analyst

Shadde Rosenblum – Senior Traffic Analyst

Sylvia Palomera – Technical Analyst

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Chapter 10

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