Draft
Environmental Impact Report

SCH# 2025120791

Volume 1

Chapters 1 through 11

Euismod Energy Storage Project
by Euismod Project LLC
& Euismod Project I, LLC
(*PP26401)*

ZCC No. 22, Map 233; CUP No. 18, Map 233;
CUP No. 19, Map 233; CUP No. 20, Map 233;
CUP No. 21, Map 233; ZV No. 10, Map 233;
Non-Summary Vacation, Map 233

Kern County
Planning and Natural Resources Department
Bakersfield, California

August 2026

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KERN COUNTY
Planning & Natural Resources

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TTY Relay 1-800-735-2929
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NOTICE OF AVAILABILITY FOR PUBLIC REVIEW AND HEARING ON THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED EUISMOD ENERGY STORAGE PROJECT

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

PROJECT TITLE: Euismod Energy Storage Project by Euismod Project LLC & Euismod Project I, LLC (PP26401); (SCH# 2025120791); Case numbers: ZCC No. 20, Map 233; CUP No. 18, Map 233; CUP No. 19, Map 233; CUP No. 20, Map 233; CUP No. 21, Map 233; ZV No. 10, Map 233; Non-Summary Vacation, Map 233.

PROJECT LOCATION: The proposed project site is at the northern edge of the Antelope Valley, approximately 8 miles west of the unincorporated area of Rosamond, approximately 15 miles west of State Route 14, and 6 miles north of State Route 138. It is located on the northwest side of 170th Street West and Rosamond Boulevard intersection.

DOCUMENT AVAILABILITY: The Draft EIR and the documents referenced in it are available for public review at the Kern County Clerk's Office, located at 1115 Truxtun Avenue, Bakersfield, CA 93301; the Planning and Natural Resources Department, located at 2700 "M" Street, Suite 100, Bakersfield, CA 93301, or on the Planning and Natural Resources Department website at: **https://kernplanning.com/environmental-doc/euismod-energy/**

PUBLIC COMMENT: The required Draft EIR public review period is 45 days.

August 7, 2026 – September 21, 2026

Written comments may be submitted to the project planner identified below prior to the close of the Draft EIR public review period on **Monday, September 21, 2026, at 5:00 p.m.** to:

Kern County Planning and Natural Resources Department
ATTN: Keith Alvidrez, Supervising Planner
2700 "M" Street, Suite 100, Bakersfield, CA 93301
Phone: (661) 862-5015
E-mail: AlvidrezK@kerncounty.com

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

DATE: **October 22, 2026**
TIME: **7:00 P.M. or soon thereafter**
LOCATION: **Chambers of the Board of Supervisors**
Kern County Administrative Center, First Floor
1115 Truxtun Avenue, Bakersfield, CA 93301

After consideration by the Planning Commission, a public hearing will be scheduled for the Kern County Board of Supervisors for final consideration and action. Comments may be provided at that hearing or prior to any action by the Board of Supervisors on any matter. The Board of Supervisors decision is final.

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

PROJECT DESCRIPTION: The proposed Euismod Energy Storage Project is a battery energy storage system (BESS) facility with associated infrastructure, which will use lithium-ion batteries and ancillary equipment to store approximately 1,150 megawatts (MW) or 9,200 megawatt-hours (MWh) of electricity from the regional grid, to be supplied back as needed, on an approximate 120-acre proposed project site in the unincorporated area of southeastern Kern County, California. The proposed project includes land-use entitlement requests for a Zone Change Case (ZCC), Conditional Use Permits (CUPs), Zone Variance (ZV), and Nonsummary Street Vacations (NSVs) from the Kem County Planning & Natural Resources Department.

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

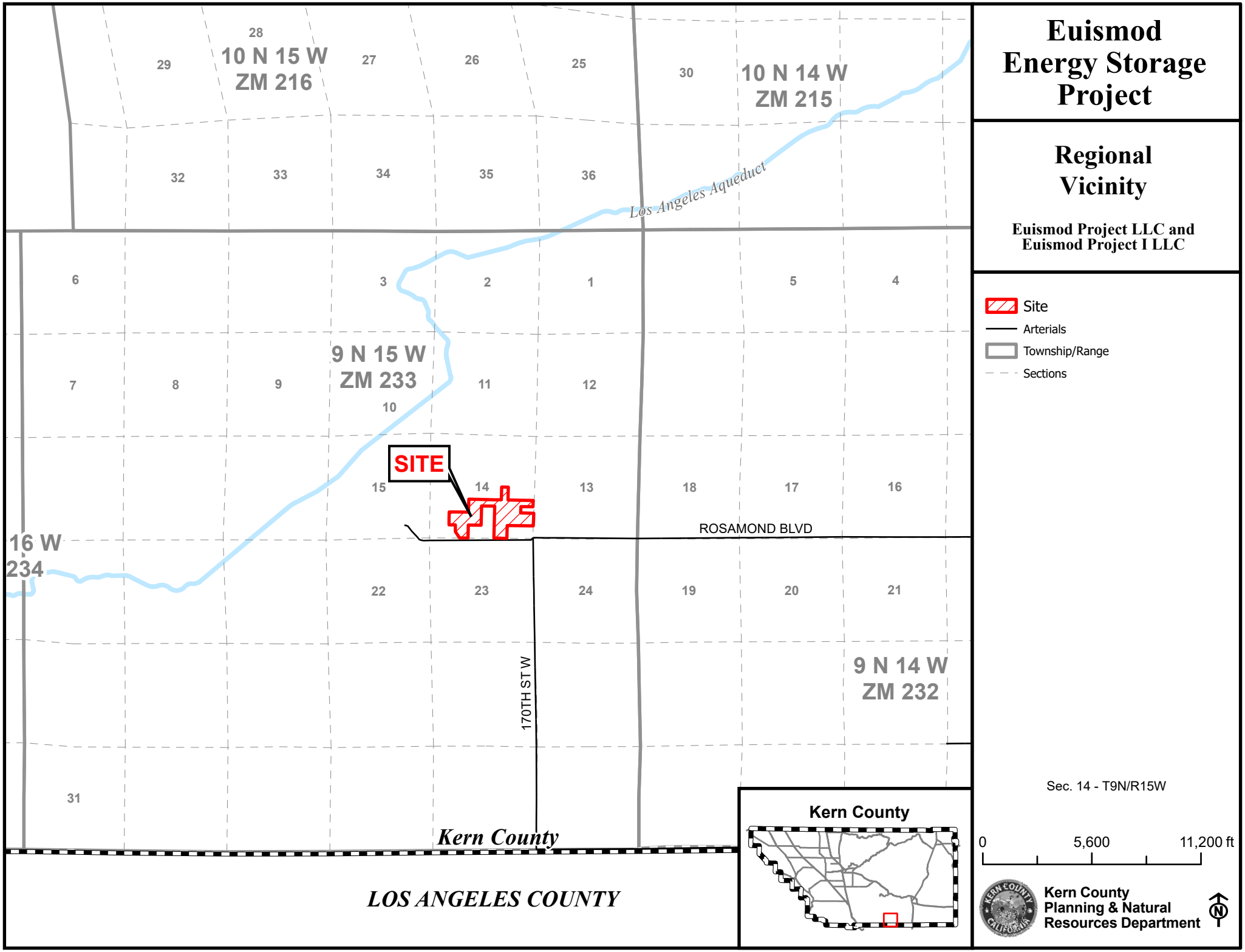
CRAIG M. MURPHY, Director
Planning and Natural Resources Department

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

THE BAKERSFIELD CALIFORNIAN
MOJAVE DESERT NEWS
ROSAMOND WEEKLY NEWS

KA (8/7/26)

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


Euismod Energy Storage Project
Regional Vicinity
Euismod Project LLC and Euismod Project I LLC
Site
Arterials
Township/Range
Sections
28
10 N 15 W
ZM 216
29
27
26
25
30
10 N 14 W
ZM 215
32
33
34
35
36
Los Angeles Aqueduct
6
3
2
1
5
4
9 N 15 W
ZM 233
7
8
9
10
11
12
SITE
15
14
13
18
17
16
ROSAMOND BLVD
16 W
234
22
23
24
19
20
21
170TH ST W
9 N 14 W
ZM 232
31
Kern County
LOS ANGELES COUNTY
Kern County
Sec. 14 - T9N/R15W
0
5,600
11,200 ft
Kern County
Planning & Natural
Resources Department
N

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Euismod Energy Storage Project
Surrounding Property Owners

261 104 21 00 1
TRUC MAI N
13149 SAN ANTONIO AV
CHINO CA 91710

261 113 18 00 9
URENA VIRGINIA FEDELIN R
1420 E 75TH ST
LOS ANGELES CA 90001-3046

261 103 30 00 0
ALLISON NANCY C
2750 W ACACIA AV SP J02
HEMET CA 92545

261 131 13 00 6
BACANI JAN & SOFIA FAMILY TRUST
6759 VINALHAVEN CT
CYPRESS CA 90630

261 104 19 00 6
BENNINGER BERNARD & ELDINA TR
1350 SUEY RD APT 265
SANTA MARIA CA 93454

261 103 13 00 1
BLAUSTEIN MARK REVOCABLE TRUST
6282 S SONIC DR
ST GEORGE UT 84790

261 104 14 00 1
BLUE PACIFIC HOLDING INC
P O BOX 803022
SANTA CLARITA CA 91380

261 103 28 00 5
BOONE RICHARD E & ELEANOR H
528 IVEY VINE DR
MARYVILLE TN 37801

261 103 21 00 4
BORNILLA JOSE C M & ROXANNE F
PO BOX 56867
SHERMAN OAKS CA 91413-1867

261 103 27 02 0
BOYLE BRITNEY N
1400 E THOMPSON BL
VENTURA CA 93001

261 103 15 00 7
BROWN DEREK
580 18TH ST
HERMOSA BEACH CA 90254

261 103 25 00 6
BURNETTE FRANKLIN W III
41380 WHITTIER AV
HEMET CA 92544

261 104 17 00 0
BURNHAM DAVID J & JOHN P
5572 ANNANDALE PL
EASTVALE CA 92880

261 113 13 00 4
CARDENAS NANCY
806 E LAUREL OAK DR
AZUSA CA 91702-2613

261 111 49 00 5
CASKEY ADAM R & PAMELA JO
PO BOX 56867
SHERMAN OAKS CA 91413

261 103 37 00 1
CHAU 6668 LIVING TRUST
1506 WHEATLEY PL
SAN JOSE CA 95121

261 104 08 00 4
COPE TRUST
21 MOLLISON DR
SIMI VALLEY CA 93065-5382

261 103 26 00 9
DAUGHERTY FAMILY 2003 TRUST
26372 PACATO DR
MISSION VIEJO CA 92691

261 104 07 00 1
DOBENS R SP TR
5622 ANDRUS AV
TORRANCE CA 90503-1813

261 103 11 00 5
DORADO HOLDINGS LLC
2021 LAS POSITAS CT STE 155
LIVERMORE CA 94551-7305

261 103 20 00 1
DREW CAROLYN WINIFRED
75 SUMMER ST
VINEYARD HAVEN MA 02568

261 104 12 00 5
EDF POWER SOLUTIONS DEVELOPMENT INC
15445 INNOVATION DR
SAN DIEGO CA 92128

261 340 03 00 1
ENXCO DEV CORP
15445 INNOVATION DR
SAN DIEGO CA 92128-3432

261 104 06 00 8
EQUITY TRUST CO CSTDIAN FBO MAYNARD NICHOLAS
P O BOX 56867
SHERMAN OAKS CA 91413

261 131 12 00 3
EYHERABIDE LAND CO LLC
5284 KENT DR
BAKERSFIELD CA 93306

261 113 15 00 0
FERREL GERARDO & MENDOZA G
1998 BUENA VISTA ST
DUARTE CA 91010

261 103 34 00 2
FONTELAR FERNANDO G & WILLA B
468 LAUSANNE AV
DALY CITY CA 94014

261 104 11 00 2
GEM A CAES LLC
333 BAY ST STE 520

261 113 19 00 2
GEM A CAES LLC
1125 17TH ST STE 700
DENVER CO 80202

261 113 20 00 4
GEM A CAES LLC
1125 17TH ST STE 700
DENVER CA 80202

261 102 14 00 7
GLORIA LAND HOLDINGS LLC
3227 PARK HILLS DR
AUSTIN TX 78746

261 131 16 00 5
GREENDALE CORP
1506 WHEATLEY PL
SAN JOSE CA 95121

261 102 05 00 1
HARRISON SHERYL T LIVING TRUST
6490 PASEO DEL MAR APT J
SAN JUAN CAPSTR CA 92675

261 113 21 00 7
HERNANDEZ JUAN C & CONTRERAS MARIA M L
8512 WILLOW AV
CALIFORNIA CITY CA 93505

261 104 03 00 9
IKARD EDDIE P & PATSY L IKARD TRUST
41862 ROAD 128
OROSI CA 93647

261 101 13 00 7
JEN CHANG LLC
127 CHANTILLY
IRVINE CA 92620

261 101 09 00 6
JENNINGS MARY ELLEN
2536 FRENCH ST
SANTA ANA CA 92706

261 103 22 00 7
KASRAVI MEHRSHID ZAHRA L
5920 S PACIFIC COAST HW APT 29
REDONDO BEACH CA 90277

261 103 01 00 6
KIM HYUN HEE LIV TR
301 STREAMWOOD
IRVINE CA 92620-1967

261 103 09 00 0
KOPPAKA PRASAD
7633 BUCKEYE CT
DUBLIN CA 94568

261 113 03 00 5
LAGO GIOVANNY
7741 SW 122ND AV
MIAMI FL 33183

261 102 04 00 8
LUHRSEN SANDRA LIVING TRUST
6490 PASEO DEL MAR APT J

261 104 13 00 8
MAC VEAN DEAN A & SUZANNE E
652 COUNTY HWY # 102
GLOVERSVILLE NY 12078

261 111 40 00 8
MARSHALL JOHN D
PO BOX 1606
ROSAMOND CA 93560

261 111 42 00 4
MARSHALL JOHN D
3410 W 170TH ST
ROSAMOND CA 93560-0100

261 104 20 00 8
METHOT PAUL DAVID
1136 W ORANGETHORPE
FULLERTON CA 92833

261 113 02 00 2
MILIRAS FAMILY TRUST
155 N HAMILTON DR # 202
BEVERLY HILLS CA 90211

261 103 39 00 7
MOJAVE GREEN PARTNERSHIP
41862 ROAD 128
OROSI CA 93647

261 113 25 00 9
MUNOZ ERWIN S
2418 MONICA LN
SANTA ANA CA 92706-1224

261 113 14 00 7
ORTIZ ANTHONY JOSE
4623 FRAJIO AV
IRWINDALE CA 91706

261 131 02 00 4
OZGA JOSEPH T & BRONIA
27955 GALLINA
MISSION VIEJO CA 92692-2618

261 113 17 00 6
PAONESSA PAMELA REVOCABLE TRUST
167 ELM CT
BURBANK CA 91502

261 104 15 00 4
PEREZ ADRIAN & BLANCA L
43812 W 58TH ST
LANCASTER CA 93536

261 103 19 00 9
PHAN HUAN
113 NE 137TH ST
BRADENTON FL 34212

261 113 01 00 9
PW REAL EST VENTURES LLC
450 ANTHONY TL
NORTHBROOK IL 60062

261 104 05 00 5
RAMIREZ MANN TR
1160 WINDWARD WY
OXNARD CA 93035

261 103 08 00 7
REECE MILLARD F & MARGUERITE TR
417 COUNTY ROAD 261
BLACKWELL TX 79506-1405

261 340 05 00 7
RUSTAM FAMILY LLC
P O BOX 4198
WESTLAKE VILLGE CA 91359

261 104 10 00 9
SELAK STEVEN J TR
1200 LIDA ST
PASADENA CA 91103-2335

261 103 17 00 3
SIVAGNANAM RISHE
2052 JANET DR
LANCASTER CA 93536

261 103 29 00 8
SMITH FAMILY TRUST
3607 BALBOA BL
NEWPORT BEACH CA 92663

261 131 04 00 0
SOU CAL EDISON CO
14799 CHESTNUT ST
WESTMINSTER CA 92683-5240

261 131 08 00 2
SOU CAL EDISON CO
2131 WALNUT GROVE AV FLR 2
ROSEMEAD CA 91770

261 132 14 00 6
SOU CAL EDISON CO
2244 WALNUT GROVE AV
ROSEMEAD CA 91770

261 132 18 00 8
SOU CAL EDISON CO
2131 WALNUT GROVE AV
ROSEMEAD CA 91770

261 103 18 00 6
SOUTHERN CALIF EDISON CO
2244 WALNUT GROVE AV
ROSEMEAD CA 91770-3714

261 113 09 00 3
STEPHENSON KEITH
222 ROYAL CREST CT
ESCONDIDO CA 92025

261 104 16 00 7
STILES FRANCES K
47 RED BARN CI
PITTSFORD NY 14534-3720

261 131 01 00 1
STRANGE CAROLYN A
2433 CERES AV
CHICO CA 95926

261 103 12 00 8
TORRES RAYMOND & LYNN LIV TR
1818 SAINT CHARLES ST
ALAMEDA CA 94501-1119

261 113 05 00 1
TREJO WILLIAM G
11922 KLING ST # 204
VALLEY VILLAGE CA 91607

261 260 20 00 7
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701 N PARKCENTER DR
SANTA ANA CA 92705

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Ridgecrest, CA 93555

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Shafter, CA 93263

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Independence, CA 93526

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San Francisco, CA 94105

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Bakersfield, CA 93301

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Bakersfield, CA 93311

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Bishop, CA 93514

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Los Angeles, CA 90036-4929

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Sacramento, CA 95814

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Bakersfield, CA 93311

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Bakersfield - Library
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Bakersfield, CA 93309

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Bakersfield, CA 93305

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Planning & Analysis Division
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Sacramento, CA 94298-0001

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

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

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

Mitchell M. Tsai Law Firm 139 South Hudson Avenue, Suite 200 Pasadena, CA 91101

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Environmental Protection Agency
1515 Tollhouse Road
Clovis, CA 93612

DTSC
HWMP – Permitting – CEQA Unit
8800 Cal Center Drive
Sacramento, CA 95826

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San Joaquin Dist.
4201 S Sabodan St
Bakersfield, CA 93313

State Dept of Water Resources
Div. Land & Right-of-Way
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Sacramento, CA 94236

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

Kern County Administrative Officer

Kern County Public Works Department
Building & Development
Floodplain

Kern County Public Works Department
Building & Development
Survey

Kern County
Env Health Services Department

Kern County Fire Dept
Aaron Duncan

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

Kern County Public Works Department
Building & Development
Code Compliance

Kern County District 2
Attn: Rosamond Municipal Advisory Council
414 W. Tehachapi Blvd. Suite H
Tehachapi, CA 93561

Southern Kern Unified School Dist.
P.O. Box CC
Rosamond, CA 93560

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

Kern COG
1401 19th Street - Suite 300
Bakersfield, CA 93301

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

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

Kern County Water Agency
3200 Rio Mirada Drive
Bakersfield, CA 93308

East Kern Air Pollution
Control District

Adams, Broadwell, Joseph & Cardozo
Attention: Rachel Levine
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080

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

U.S. Army
Attn: Daniel J. Saelens
G3 Force Integration
P.O. Box 105100
Fort Irwin, CA 92310

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

U.S. Navy
Attn: Steve Chung, Plans & Liaison Officer
1220 Pacific Highway
San Diego, CA 92132-5190

Center on Race, Poverty
& the Environnent
5901 Christie Avenue, Suit 208
Emeryville, CA 94608

David Walsh
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Tehachapi, CA 93561

Anitra Kass
Pacific Crest Trail Association
41860 Saint Annes Bay Drive
Bermuda Dunes, CA 92203

Chumash Council of Bakersfield
729 Texas Street
Bakersfield, CA 93307

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

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

Congentrix Sunshine, LLC
Rick Neff
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Charlotte, NC 28273

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

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

U.S. Marine Corps
Command Gen MCIWEST-MCB CamPen
Attn: A/CS, G7
Box 555010, Bldg 1160, Rm 280
Camp Pendleton, CA 92055-5246

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

Native American Heritage Council
of Kern County
Attn: Gene Albitre
18169 Highway 155
Woody, CA 93287

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

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

Santa Rosa Rancheria
Ruben Barrios, Chairperson
P.O. Box 8
Lemoore, CA 93245

Tubatulabals of Kern County
Attn: Robert Gomez, Chairperson
P.O. Box 833
Weldon, CA 93283

Terra-Gen Power, LLC
Randy Hoyle
11512 El Camino Real, Suite 370
San Diego, CA 92130-3025

EDP Renewables Company
North America, LLC
53 SW Yamhill Street
Portland, OR 97204

Terra-Gen Power
Steve Yatsko
11512 El Camino Real, Suite 100
San Diego, CA 92130

Kern Audubon Society
Attn: Frank Bedard, Chairman
7612 Angela Ave
Bakersfield CA 93308

Defenders of Wildlife
Attn: Sophia Markowska
P.O. Box 401
Folsom, CA 95763

Beth Boyst
Pacific Crest Trail Program Manager
1323 Club Drive
Vallejo, CA 94592

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

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

Tejon Indian Tribe
Attn: Curtis Alcantar
4941 David Road
Bakersfield CA 93307

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

Renewal Resources Group
Holding Company
Rupal Patel
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Los Angeles, CA 90036

Sierra Club (Beyond Coal Campaign)
Sarah Friedman
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Jon and Helen Lantz
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Kevin Johnston
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Livermore, CA 94550

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

Native American Heritage Commission
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691

Euismod Energy Storage Project
AB 52 Tribal

Morongo Band of Mission Indians
Attn: Aurelia R. Torres
12700 Pumarra Road Banning, CA 92220

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AES Midwest Wind Gen
P.O. Box 2190
Palm Springs, CA 92263-2190

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Portland, OR 97209

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

Fairmont Town Council
Attn: Barbara Rogers
P.O. Box 2320
Rosamond, CA 93560

Leadership Counsel for Justice
& Accountability
Attn: Emma De La Rosa
1522 18th Street
Bakersfield, CA 93301

Terra-Gen Power LLC
11455 El Camino Real #160
San Diego, CA 92130

Tejon Indian Tribe (DUP)
Curtis Alcantar
4941 David Road
Bakersfield, CA 93307

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

Center for Biological Diversity
2100 Frankline Street, Suite 375
Oakland, CA 94612

Pacific Gas and Electric Company
Electric Generation Interconnection (EGI) Department
P.O. Box 770000
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Notice of Completion & Environmental Document Transmittal

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

SCH # 2025120791

Project Title: Euismod Energy Storage Project by Euismod Project LLC and Euismod Project I, LLC.

Lead Agency: Kern County Planning and Natural Resources Department | Contact Person: Keith Alvidrez, Supervising Planner

Mailing Address: 2700 M Street, Suite 100 | Phone: 661-862-5015

City: Bakersfield | Zip: 93301 | County: Kern County

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

Cross Streets: 170th Street West and Rosamond Boulevard | Zip Code: 93560

Longitude/Latitude (degrees, minutes and seconds): 35 ° 52 ′ 3.46720 ″ N / 118 ° 26 ′ 20.28729 ″ W Total Acres: 120

Assessor's Parcel No.: Multiple | Section: 14 | Twp.: 9N | Range: 15W | Base: SBBM

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

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

Document Type:

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

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other:

Local Action Type:

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

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 ____ MW
☐ Waste Treatment: Type ____ MGD
☐ Hazardous Waste: Type
☒ Other: Battery Energy Storage Systems (BESS) - 9,200 MWh / 1,150 MW

Project Issues Discussed in Document:

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

Present Land Use/Zoning/General Plan Designation:

Undeveloped Vacant Land / Various Zoning / Various General Plan Designations

Project Description: *(please use a separate page if necessary)*

The proposed Euismod Energy Storage Project is a battery energy storage system (BESS) facility with associated infrastructure, which will use lithium-ion batteries and ancillary equipment to store approximately 1,150 megawatts (MW) or 9,200 megawatt-hours (MWh) of electricity from the regional grid, to be supplied back as needed, on an approximate 120-acre proposed project site in the unincorporated area of southeastern Kern County, California. The proposed project includes land-use entitlement request for a Zone Change Case (ZCC), Conditional Use Permits (CUPs), Zone Variance ('ZV), and Nonsummary Street Vacations (NSVs) from the Kem County Planning & Natural Resources Department.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

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

X	Air Resources Board		Office of Historic Preservation
	Boating & Waterways, Department of		Office of Public School Construction
	California Emergency Management Agency		Parks & Recreation, Department of
X	California Highway Patrol		Pesticide Regulation, Department of
X	Caltrans District # 9	X	Public Utilities Commission
	Caltrans Division of Aeronautics	X	Regional WQCB # Central
X	Caltrans Planning		Resources Agency
	Central Valley Flood Protection Board		Resources Recycling and Recovery, Department of
	Coachella Valley Mtns. Conservancy		S.F. Bay Conservation & Development Comm.
	Coastal Commission		San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
	Colorado River Board		San Joaquin River Conservancy
X	Conservation, Department of		Santa Monica Mtns. Conservancy
	Corrections, Department of		State Lands Commission
	Delta Protection Commission		SWRCB: Clean Water Grants
	Education, Department of	X	SWRCB: Water Quality
X	Energy Commission		SWRCB: Water Rights
X	Fish & Game Region # Fresno		Tahoe Regional Planning Agency
	Food & Agriculture, Department of	X	Toxic Substances Control, Department of
X	Forestry and Fire Protection, Department of	X	Water Resources, Department of
	General Services, Department of		
	Health Services, Department of		Other:
	Housing & Community Development		Other:
X	Native American Heritage Commission		

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

Starting Date August, 7, 2026 Ending Date September 21, 2026

Lead Agency (Complete if applicable):

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

Applicant:
Address:
City/State/Zip:
Phone:

Signature of Lead Agency Representative: Keith Alvidrez **Date:** 8/7/2026

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

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Volume 4

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Appendix I: Noise Impact Assessment Report

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Chapter 1
Executive Summary

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Chapter 1
Executive Summary

1.1 Introduction

The Euismod Energy Storage Project (project) proposed by Euismod Project LLC and Euismod Project I LLC (project applicants/proponents) includes the construction, operation, maintenance, and eventual decommissioning of a 9,200 megawatt-hour (MWh) capacity battery energy storage system (BESS) facility with associated infrastructure on approximately 120 acres across 10 privately owned parcels in an unincorporated area of southeastern Kern County, California.

Kern County (County), as the Lead Agency under the California Environmental Quality Act (CEQA), prepared this Draft EIR. This 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 County will use the Final EIR resulting from this Draft EIR to determine whether to approve the requested Zone Change Cases (ZCC), Conditional Use Permits (CUPs), Zone Variance (ZV), and the nonsummary vacation of public access easement based on any significant environmental effects of the project. Additionally, this Draft EIR will identify possible ways to mitigate impacts and outline reasonable alternatives to the proposed Project.

This Executive Summary summarizes the CEQA Statute and Guidelines; provides an overview of the project; identifies the purpose of the 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 proponents propose to construct a BESS facility and associated infrastructure capable of storing approximately 9,200 megawatt-hour (MWh) of energy within approximately 105.6 acres of the 120-acre project site. Other permanent structures and facilities that would be built or constructed as part of the project include, but are not limited to, collector substations, Supervisory Control and Data Acquisition (SCADA) Systems, telecommunication towers, operation and maintenance support buildings, permanent climate-controlled storage containers, and an incident command center. The project may be constructed in multiple phases.

The project would also include two 220-kilovolt overhead transmission lines (tie-lines) that would interconnect with the existing Southern California Edison (SCE) Whirlwind Substation located adjacent to the project site. Two independent fiberoptic communication lines would be installed for each tie-line to provide system reliability and would connect the collector substations to the existing communications room at the Whirlwind Substation. SCE work inside the existing Whirlwind Substation fenceline installation would include two dead-end structures for the tie-lines, along with a new line position and switchrack position for each of the tie-lines.

The project includes the following discretionary actions:

Zone Change

- Zone Change Case (ZCC No. 20, Map 233) to change zoning from E (2 ½) RS (Estate, 2.5 acres, Residential Suburban Combining), E (5) RS (Estate 5 acres, Residential Suburban Combining), E (10) RS (Estate 10 acres, Residential Suburban Combining), and E (20) RS (Estate 20 acres, Residential Suburban Combining) to A (Exclusive Agriculture) on approximately 115.29 acres.

Conditional Use Permit

- Conditional Use Permit (CUP No. 18, Map 233) to allow for the construction and operation of a BESS facility with the associated infrastructure on approximately 40.19 acres in the A (Exclusive Agriculture) Zone District pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance.
- Conditional Use Permit (CUP No. 19, Map 233) to allow for the construction and operation of a BESS facility with the associated infrastructure on approximately 80.16 acres in the A (Exclusive Agriculture) Zone District pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance.
- Conditional Use Permit (CUP No. 20, Map 233) to allow for a microwave communications tower on approximately 0.23 acre in the A (Exclusive Agriculture) Zone District pursuant to Section 19.12.030.F of the Kern County Zoning Ordinance.
- Conditional Use Permit (CUP No. 21, Map 233) to allow for a microwave communications tower on approximately 0.21 acres in the A (Exclusive Agriculture) Zone District pursuant to Section 19.12.030.F of the Kern County Zoning Ordinance.

Zone Variance

- Zone Variance (ZV No. 10, Map 233) to authorize multiple parcels of substandard size where a minimum of 20 acres is required for a change in base zoning from E (2 1/2) RS (Estate 2.5 acres, Residential Suburban Combining), E (5) RS (Estate 5 acres, Residential Suburban Combining), E (10) RS (Estate 10 acres, Residential Suburban Combining), and E (20) RS (Estate 20 acres, Residential Suburban Combining) to the A (Exclusive Agriculture) Zone District on approximately 75.10 acres.

Nonsummary Vacation of Easements

- Nonsummary Vacations to eliminate public access easements within Section 14, Township 9 North, Range 15 West of the SBBM in Zone Map 233.

The project proponents are also requesting CEQA review for the project. **Table 1-1**, *Project Assessor Parcel Numbers, Existing and Proposed Land Use Zoning, and Acreages*, identifies the Assessor Parcel Numbers (APN) for the project site.

TABLE 1-1: PROJECT ASSESSOR PARCEL NUMBERS, EXISTING AND PROPOSED LAND USE ZONING, AND ACREAGES

Case Map/Section Detail	APN	Parcel Size (Approximate GIS Acres)	CUP Acres	KCGP or Willow Springs Specific Plan	Existing Map Code Designation	Existing Zoning	Proposed Zoning	Zone Variance Requested
CUP No. 18, Map 233 (South BESS Area)								
233	261-104-10*	40	40.19	Willow Springs	4.1 & 5.6	E (2 ½) RS; E (2 ½) RS FPS	A; A FPS	No
CUP 18, MAP 233 TOTALS:		**40**	**40.19**					
CUP No. 19, Map 233 (North & West BESS Areas)								
233	261-103-17	19	19.51	Willow Springs	4.1 & 5.7	E (5) RS	A	Yes
233	261-103-20*	10	10.14	Willow Springs	4.1 & 5.7	E (5) RS	A	Yes
233	261-103-21	10	10.14	Willow Springs	4.1 & 5.75	E (10) RS	A	Yes
233	261-103-29	5	5.10	Willow Springs	4.1 & 5.7	E (5) RS	A	Yes
233	261-104-13	5	5.07	Willow Springs	4.1 & 5.75	A WE	A WE	No
233	261-104-16	15	15.14	Willow Springs	4.1 & 5.75	E (10) RS	A	Yes
233	261-104-19	5	5.01	Willow Springs	4.1 & 5.8	E (20) RS FPS	A FPS	Yes
233	261-104-20	5	5.02	Willow Springs	4.1 & 5.8	E (10) RS	A	Yes
233	261-104-21	5	5.03	Willow Springs	4.1 & 5.75	E (20) RS FPS	A FPS	Yes
CUP 19, MAP 233 TOTALS:		**79**	**80.16**					

Case Map/Section Detail	APN	Parcel Size (Approximate GIS Acres)	CUP Acres	KCGP or Willow Springs Specific Plan	Existing Map Code Designation	Existing Zoning	Proposed Zoning	Zone Variance Requested
Proposed Tie-Lines**								
233	261-131-04	5	N/A	Willow Springs	4.1 & 5.6	E (2 ½) RS	N/A	N/A
233	261-131-05	10	N/A	Willow Springs	4.1 & 5.6	E (2 ½) RS	N/A	N/A
233	261-132-01	2.5	N/A	Willow Springs	4.1 & 5.6	E (2 ½) RS	N/A	N/A
233	261-132-06	10	N/A	Willow Springs	4.1 & 5.6	E (2 ½) RS	N/A	N/A
233	261-132-12	10	N/A	Willow Springs	4.1 & 5.6	E (2 ½) RS	N/A	N/A

Key: APN = Accessors Parcel Number; BESS = battery energy storage system; CUP = conditional use permit; KCGP = Kern County General Plan; GIS = Geographic Information System; N/A = Not Applicable

Note:

* A parcel that has an individual/separate CUP for a microwave tower

** Included in the study area for tie-lines to SCE Whirlwind Substation, but not part of Conditional Use Permit acreage.

Willow Springs Specific Plan Map Code Designation:

3.3 = Other Facilities
4.1 = Accepted County Plan Areas
5.6 = Residential – Minimum 2.5 Gross Acres
5.7 = Residential – Minimum 5 Gross Acres
5.75 = Residential – Minimum 10 Gross Acres
5.8 = Residential – Minimum 20 Gross Acres

Kern County Zoning Designations:

A = Exclusive Agriculture
A WE = Exclusive Agriculture, Wind Energy Combining
A FPS = Exclusive Agriculture, Floodplain Secondary Combining
E (2 ½) RS = Estate 2.5 acres, Residential Suburban Combining
E (2 ½) RS FPS = Estate 2.5 acres, Residential Suburban Combining, Floodplain Secondary Combining
E (5) RS = Estate 5 acres, Residential Suburban Combining
E (10) RS = Estate 10 acres, Residential Suburban Combining
E (20) RS FPS = Estate 20 acres, Residential Suburban Combining, Floodplain Secondary Combining

Entitlements Required

The Kern County Planning and Natural Resources Department, as the CEQA Lead Agency (per CEQA Guidelines Section 15052), has primary responsibility for the project. To implement this project, various discretionary and ministerial permits/approvals may be required, including but not limited to:

County of Kern

- Consideration and Certification of Final EIR
- Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations
- Adoption of Mitigation Monitoring and Reporting Program
- Approval of Zone Change Case
- Approval of Conditional Use Permits
- Approval of Zone Variance
- Approval of Non-summary Vacations of Public Access Easements
- Approval of Kern County Grading and Building Permits
- Approval of Floodplain Development Permit (if required)
- Approval of Lighting Plan
- Approval of Kern County Encroachment Permits (if required)
- Approval of Fire Safety Plan
- Approval of Emergency Response Plan
- Approval of Hazard Mitigation Analysis
- Approval of Hazardous Materials Business Plan
- Approval of Decommissioning Plan

Other Responsible Agency Entitlements

- **Federal**
  - U.S. Fish and Wildlife Service Incidental Take Permit and Habitat Conservation Plan (if required).
  - U.S. Army Corps of Engineers, Section 404 Permit (if required)
  - Federal Communications Commission licenses

- **State**
  - California Public Utilities Commission
    - Approval under General Order 131E (if required)
    - Public Utilities Crossing/Encroachment Agreements (if required)
  - California Department of Fish and Wildlife
    - Section 2081 Incidental Take Permit (for state-listed and Candidate species, including western Joshua tree)
    - Authorization for western Joshua tree removal under the Western Joshua Tree Conservation Act
    - Section 1600 et seq. (Lake and Streambed Alteration Agreement) (if required)
  - Lahontan Regional Water Quality Control Board
    - Waste Discharge Requirements (if required)
    - Regional Water Quality Certification (401 Permit) (if required)
    - National Pollutant Discharge Elimination System (NPDES) Construction General Permit
    - General Construction Stormwater Permit (Preparation of a SWPPP)
- **Local**
  - Eastern Kern Air Pollution Control District
    - Approval of Fugitive Dust Control Plan
    - Approval of Authority to Construct Permits
    - Approval of Permits to Operate
  - Antelope Valley Water Master
    - Groundwater Right Authorization for withdrawal from the Antelope Valley Groundwater Basin

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

1.3 Purpose and Use of the EIR

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

of Supervisors will make a final decision, which may be to approve, conditionally approve, or deny the project.

The purpose of the Draft EIR is to identify the following:

- The significant potential impacts of the project on the environment and how these 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.

An EIR is circulated to Responsible Agencies, Trustee Agencies, and interested agencies and individuals. Public and agency review of an EIR serves several purposes:

- Sharing expertise
- Disclosing agency analyses
- Checking for accuracy
- Detecting omissions
- Discovering public concerns
- Soliciting counterproposals

Reviewers of an EIR are requested to focus on the sufficiency of the document in identifying and analyzing the possible environmental impacts and ways in which the significant impacts of a 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 Draft EIR is being distributed directly to agencies, organizations, and interested groups and people for comment during a 45-day formal review period in accordance with CEQA Guidelines Section 15087. The EIR process, including how members of the public can comment on this Draft EIR, is discussed further in **Chapter 2**, *Introduction*.

1.4 Project Overview

This section describes the local and regional setting, surrounding land uses, project objectives, and project characteristics. The project is described in further detail in **Chapter 3**, *Project Description*.

Regional Setting

The project site is located at the northern edge of the Antelope Valley in Kern County, California. The site is situated approximately eight miles west of the unincorporated community of Rosamond and

approximately 17 miles south of the incorporated City of Tehachapi. The project site is also approximately 15 miles west of State Route (SR-) 14 and six miles north of SR-138. The project site is within the U.S. Geological Survey Fairmont Butte quadrangle, and in Section 14 of Township 9 North, Range 15 West of the San Bernardino Baseline and Meridian. **Figure 3-1**, *Regional Vicinity,* shows the project in context of the region.

Surrounding Land Uses and Project Site Conditions

Areas surrounding the project include renewable energy development, utility infrastructure, sparse rural residential development, agriculture, and undeveloped/vacant lands. The project consists of ten privately owned parcels that have been purchased, leased, or are in the process of purchase or lease acquisition by the project proponents (and whose owners have agreed to be part of the project). The project would be subject to both the provisions of the Kern County General Plan (KCGP), Willow Springs Specific Plan, and Kern County Zoning Ordinance.

The project site and surrounding areas are primarily characterized as creosote bush scrub and are interspersed with existing solar and wind energy generation facilities, communications infrastructure, agricultural, and sparse residential land uses. The project is located in a low-population-density area, with only a few residences in the immediate vicinity. The nearest sensitive receptors are located approximately 0.13 miles to 0.23 miles northeast of the closest approach to the project boundary. Nearby renewable energy developments include the SCE Whirlwind Substation, Pacific Wind Energy Project, Kingbird Solar, Antelope Valley Solar, Keyhole Wind Energy Project, and the PdV Wind Project. **Table 1-2***, Proposed Project Site and Surrounding Land Uses,* demonstrates the existing land use of the proposed project site and surrounding areas.

TABLE 1-2: PROPOSED PROJECT SITE AND SURROUNDING LAND USES

Location	Existing Land Use	Existing General Plan Map Code Designation	Existing Zoning Classification
Project Site	Undeveloped/vacant land; transmission and communications infrastructure	4.1, 5.6, 5.7, 5.75, and 5.8	E (2 ½) RS, E (2 ½) RS FPS, E (5) RS, E (10) RS, E (20) RS FPS and A WE
North	Undeveloped/vacant land; transmission and communications infrastructure; wind turbines	4.1, 5.75 and 5.8	E (10) RS, E (20) RS FPS, A WE and A WE FPS
East	Undeveloped/vacant land; sparse rural residences	4.1, 5.5, 5.6 and 5.8	E (20) RS FPS and E (2 ½) RS FPS
South	Whirlwind Substation; transmission and communications infrastructure; undeveloped/vacant land; solar energy developments; agriculture	3.3, 4.1, 5.6, 5.7 and 6.2	E (2 ½) RS and E (2 ½) RS FPS

Location	Existing Land Use	Existing General Plan Map Code Designation	Existing Zoning Classification
West	Undeveloped/vacant land; transmission infrastructure; proposed Keyhole Wind Project	3.3, 4.1, 5.7 and 8.5	E (5) RS, E (10) RS, A and A GH

Kern County General Plan Map Code Designation:
3.3 (Other Facilities)
4.1 (Accepted County Plan Areas)
5.6 (Minimum 2.5 Gross Acres/Unit)
5.7 (Minimum 5 Gross Acres/Unit)
5.75 (Minimum 10 Gross Acres/Unit)
5.8 (Minimum 20 Gross Acres/Unit)
6.2 (General Commercial)

Kern County Zoning District:
A WE (Exclusive Agriculture, Wind Combining District)
A WE FPS (Exclusive Agriculture, Wind Combining District, Floodplain Secondary Combining District)
A GE (Exclusive Agriculture, Geologic Hazard Combining District)
E(2½)RS (Estate 2.5 Acres, Residential Combining District)
E(2½)RS FPS (Estate 2.5 Acres, Residential Combining District, Floodplain Secondary Combining District)
E(5)RS (Estate 5 Acres, Residential Combining District)
E(10)RS (Estate 10 Acres, Residential Combining District)
E(20)RS FPS (Estate 20 Acres, Residential Combining District, Floodplain Secondary Combining District)

Applicant-Submitted Project Objectives

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

- **Objective 1** – Establish a reliable, economically feasible, and commercially financeable energy storage facility of sufficient size to substantially contribute to State goals for storage capacity.
- **Objective 2** – Provide Kern County, the State of California, and Southern California Edison with storage capacity that would assist in meeting obligations under California's Renewable Portfolio Standard Program. To achieve California's 2045 clean energy targets, the Public Utilities Commission has identified a need for 52 gigawatts of energy storage capacity.
- **Objective 3** – Use proven and established energy storage technology that is efficient with low maintenance requirements.
- **Objective 4** – Minimize the need for new infrastructure to connect the storage capacity to the grid.
- **Objective 5** – Site and design the project in an environmentally responsible manner.
- **Objective 6** – Locate the storage capacity close to an abundant source of renewable energy to optimize transmission efficiency.
- **Objective 7** – Utilize land that is commercially viable to secure.
- **Objective 8** – Develop an energy storage facility in Kern County that would support the economy by investing in the local community, providing green jobs to the County and California, and increase tax and fee revenue to the County.

Project Characteristics

The project would consist of a BESS facility that would use lithium-ion batteries and ancillary equipment to store electricity from the regional grid and discharge it during peak periods of electricity demand. The project would provide up to 9,200 MWh of battery energy storage capacity, facilitating the integration of off-site renewable energy resources, improving grid reliability, and supporting the State's renewable energy and decarbonization goals. The project would assist the State in achieving the Renewables Portfolio Standard objectives established under Senate Bill 100 (2018), which increased the requirement for renewable electricity generation to 60 percent by 2030 and established a target of 100 percent carbon-free electricity by 2045.

In addition, the project would support implementation of the California Public Utilities Commission's (CPUC) 2021 Mid-Term Reliability (MTR) Decision (D.21-06-035) and Supplemental MTR Decision (D.23-02-040), which are intended to ensure electric system reliability while advancing the State's GHG emission reduction goals. These decisions established the requirement to procure new clean energy resources, including long-duration energy storage. The project was also identified in CPUC Resolution E-5371 as an approved resource to satisfy a portion of SCE's long-duration energy storage procurement obligation under the MTR program (CPUC 2025).

Near the end of the anticipated operational life of up to 35 years following the commencement of commercial operations, the project proponent would determine whether to decommission the facility or pursue continued operations through applicable permitting processes and land use regulations in effect at that time. In addition, final equipment specifications, including the selected battery modules, inverters, energy storage components, and associated infrastructure, may influence the final internal layout of the facility. Any further refinements to the site design would remain substantially consistent with the proposed site plan.

The project would be developed within three designated areas, the North, South, and West BESS areas, and would store electricity from the regional grid and supply it back to the grid as needed. Primary project components include:

- Outdoor battery energy storage enclosures, equipped with bi-directional medium voltage (MV) transformers, voltage converters, and underground cables that connect the MV transformers to the collector substations;
- Two on-site collector substations containing circuit breakers, switchgear, transformers, bi-directional transformers, two auxiliary transformers for station service, a control house with relay protection, a SCADA system, and telecommunications systems;
- Two microwave communication towers;
- Three approximately 1,200 square feet operations and maintenance buildings;
- Up to eight climate-controlled, permanent storage containers;
- Up to four 250 kW diesel-fired generators, each with an associated 500-gallon fuel tank;
- Water supply and fire protection infrastructure, including a water tank and co-located groundwater well at each of the BESS areas and a dedicated aboveground fire water tank;
- A septic tank and leach field at each of the BESS areas;

- Site control and security infrastructure, including access gates, perimeter security fencing, and nighttime directional lighting;
- On-site access roads and paved driveways;
- Stormwater-related infrastructure, including run-off diversion ditches and detention and retention basins;
- Two new 220 kV tie-lines within new tie-line corridors connecting the project to SCE's Whirlwind Substation. The tie-lines would include single- or double-circuit overhead conductor cables and static wires, redundant fiber-optic communication lines installed overhead or underground, or both, and steel pole or tower support structures;
- An approximately three-acre temporary laydown yard that would be used for storing construction materials and equipment; and
- An Incident Command Center consisting of a dedicated fire water and fire alarm annunciator panel.

For a more detailed description of the project, see **Chapter 3**, *Project Description*.

Energy Storage System and Battery Modules

The project would consist of 10 privately owned parcels of land that would include three designated BESS areas: the North BESS area (30.21 acres); the South BESS area (40.19 acres), and the West BESS area (49.95 acres). The BESS areas would include Li-ion battery energy storage arrays, SCADA systems, microwave communication towers, operation and maintenance buildings, climate-controlled storage containers, site power infrastructure, site water infrastructure, site control and security infrastructure, roads and improved surfaces, and a temporary laydown yard.

The project would consist primarily of outdoor battery energy storage enclosures and associated electrical equipment arranged in arrays that have paved driveways/fire lanes throughout. Battery enclosures would be purpose-built, free-standing structures approximately twelve feet or less in height. The arrays would also include bi-directional MV transformers within purpose-built enclosures, voltage converters, and underground cables that connect the MV transformers to the collector substations. Battery enclosures would be spaced in accordance with National Fire Protection Association (NFPA) Standard 855 requirements, KCFD requirements, and manufacturer specifications, and would be set back a minimum of 50 feet from property lines.

The project would comply with comprehensive requirements to ensure the safe installation and operation of equipment. Battery modules and enclosures would be inspected and tested at the manufacturer's facility and again upon delivery to the project site. Once installed, tested, and in operational mode, each battery module would be continuously monitored for electrical current, voltage, and temperature to optimize performance and mitigate potential failures. Batteries performing out of specification would be immediately taken offline by the automated monitoring system. The system would be designed and constructed to comply with all applicable codes in effect in the County, including NFPA Standards, National Electrical Code, and California Fire Code.

Battery enclosures would be equipped with fire prevention, detection, and isolation methods and materials, including smoke and fire detection sensors, ground fault detection systems, alarms, and automatic shutdown capabilities. Enclosures would be located at least 50 feet from project boundaries and spaced in accordance with NFPA 855 requirements to minimize the potential for fire propagation between units. NFPA 855 also

requires project-specific safety planning documents to be approved by KCFD, including bench-scale fire and explosion testing, a Hazard Mitigation Analysis, and an Emergency Response Plan. The Emergency Response Plan would also comply with Senate Bill (SB) 38. These materials would be submitted to KCFD once the specific equipment is selected and before issuance of building permits. In addition, NFPA 855 requires initial and annual refresher training for project personnel, and the project proponent would coordinate with KCFD to provide site-specific training for emergency responders.

Collector Substations

The North and West BESS areas would each have an on-site collector substation with three bi-directional transformers to convert between MV and high voltage for connection to the electric grid. Each collector substation would include 220 and 34.5 kV bus work, circuit breakers, disconnect switches, instrument transformers, metering transformers, three 220/34.5 kV bi-directional transformers, two auxiliary transformers for station service, a control house with relay protection, a SCADA system, and a telemetry system.

The collector substation in the North BESS area would include an H-Frame dead-end structure up to 80 feet high and shield wires spanning from the top over other substation equipment. The tie-line associated with the North BESS area would begin at the H-frame structure within the substation and extend south, spanning across the South BESS area. The tie-line would be supported by three tubular steel structures up to 140 feet high. The collector substation in the West BESS area would include a tubular steel pole dead-end structure up to 140 feet high with shield wires spanning from the pole top downward over other substation equipment. The preliminary design for the tie-line from the West BESS area collector substation includes up to five steel tower or pole structures on SCE property between the project site and the Whirlwind Substation interconnection. Of the five structures, three would be approximately 140 feet high, and two would be between 140 feet and 200 feet high. The two higher structures are needed to achieve the required vertical clearances over existing transmission lines.

Collector substation frameworks and transmission line support poles would be galvanized or otherwise finished with a low-reflective finish to minimize visual contrast. The pole structures associated with both interconnections would be located within the project site and owned by the respective project proponent. Meanwhile, SCE would construct, own, and operate the tie-lines that extend from the structures across the project site boundary to the interconnection point at the Whirlwind Substation 220 kV bus.

Supervisory Control and Data Acquisition

Each collector substation would have a SCADA system to aggregate operational information from the battery storage system, electrical equipment, fire protection systems, and interconnection facilities. The SCADA systems would provide real-time monitoring and communication with the transmission service provider, grid operator, and remote operations center. This would enable offsite control of critical site functions, including charge and discharge cycles, breaker status, and facility output.

Microwave Communication Towers

The project would include two microwave communications towers. One tower would be located within the West BESS area, northeast of the substation and immediately west of the detention pond. The second tower would be located in the northwest corner of the South BESS area.

Separate CUPs would be processed for the microwave communications towers. The towers would facilitate remote communications between the project, the California Independent System Operator Corporation

(CAISO), and other outside parties. Antennae would be positioned to ensure an unobstructed line of sight with other microwave communication facilities, enabling reliable transmission of high-capacity data signals. Each tower would include antenna transmission lines, a safety-climbing ladder with fall-arrest systems in conformance with State and County requirements. Chain-link security fencing would be installed around each tower base to prevent unauthorized access. Both towers would be located within the project's perimeter security fence and would include gravel surfacing and compacted gravel access routes to accommodate maintenance activities.

Operation and Maintenance Buildings

The project would include three operations and maintenance buildings, one within each of the North, South, and West BESS areas. Each building would be approximately 1,200 square feet and include office space, a conference room, a breakroom, and restroom facilities to support project personnel, contractors, and vendors. Parking would be provided adjacent to each building.

Storage Containers

Up to eight climate-controlled, permanent storage containers would be provided in each designated BESS area for spare parts. These facilities are intended to support ongoing operations and maintenance by ensuring secure and accessible storage of critical components.

Site Power Infrastructure

On-site power for operations would be provided via station service transformers located at the collector substations. The project infrastructure would also include up to four diesel-fired generators to provide backup power for critical functions during outages or other emergency conditions. Two 250 kW diesel-fired generators would be installed at each collector substation, with each generator equipped with an associated 500-gallon fuel tank.

Water and Wastewater Infrastructure

On-site water infrastructure would include water tanks distributed throughout the project site. Each of the North, South, and West BESS areas would include a water tank and co-located groundwater well to provide water for fire protection and operation and maintenance building needs. In addition, a dedicated aboveground fire water tank with a capacity of 10,000 to 30,000 gallons would be located adjacent to the incident command center near 170th Street West.

Each operation and maintenance building would be served by a septic system consisting of a septic tank and leach field. In the unforeseen event that a leach field is infeasible or impractical, sanitary waste would be stored in holding tanks and periodically removed from the project site by a licensed waste-hauling contractor.

Site Control and Security Infrastructure

The project site would be closed to public access with secured gates. Paved driveways would provide access from 170th Street West, and signs identifying the BESS facility would be provided at entrance gates. On-site roads, access gates, and fire hydrants would be designed in accordance with the KCFD requirements. The North and South BESS areas would be surrounded by a common perimeter fence, and the West BESS area would have its own perimeter fence. A Knox rapid access system, which would allow emergency responders access to the project site gates. Roads would be designed for two-way circulation of on-site

traffic, which would be minimal, consisting of visits by the project's employees, contractors, and vendors providing periodic maintenance and monitoring.

Shielded, downward-directed night-lighting would be provided for safety and security. Motion-sensitive cameras and other monitoring equipment may also be installed, with cameras mounted on poles up to 25 feet in height. All lighting would adhere to applicable Kern County Dark Skies Ordinance requirements. A detailed lighting plan would be prepared and approved prior to the issuance of building permits.

Roads, Drainage, and Improved Surfaces

The final finished grade for roadways throughout the developed portion of the project site would be stable, with improved surfaces for on-site fire/drive lanes, concrete footings and slabs, stabilized stormwater control systems, and gravel surfacing encompassing other areas. On-site driveways/fire lanes would be engineered to meet KCFD requirements, including but not limited to compacted subgrade and paved or other durable erosion-resistant surfacing to support response apparatus weighing up to 75,000 pounds.

Stormwater flows would be controlled by run-of diversion ditches, on-site driveways/fire land elevations, shallow rip-rap-lined ditches, and detention and retention basins. Drainage on-site would be managed in shallow rip-rap ditches with culverts at road crossings and surface impoundments to control peak flows in accordance with County requirements.

SCE Tie-Line and Substation Improvements

SCE is a regulated public utility entity subject to the exclusive jurisdiction of the CPUC. As a result, the construction, modification and operation of SCE's electric transmission facilities are governed by state law and CPUC oversight rather than local discretionary land use authority. Pursuant to CPUC General Order 131-E, local agencies are preempted from imposing discretionary land use approvals on such facilities. However, projects remain subject to environmental review under CEQA.

Based on the scope of the SCE interconnection facilities proposed for the project, as detailed in **Table 3-3**, *Preliminary SCE Interconnection Work Scope Summary,* located in **Chapter 3,** *Project Description*, CPUC authorization is anticipated to be obtained through General Order 131-E by means of an advice letter, rather than a Permit to Construct or Certificate of Public Convenience and Necessity. Consistent with recent CPUC practice, SCE is expected to rely on the General Order 131-E exemption for power line and substation facilities that have undergone CEQA review as part of a larger project. Accordingly, the project's CEQA document must expressly evaluate the environmental impacts of the SCE facilities as part of the overall project, and obtaining CEQA approvals is a prerequisite to CPUC's acceptance and approval of the advice letter.

The project proponents have submitted interconnection requests to CAISO for the project that would interconnect to SCE's Whirlwind Substation. To accommodate the requests, SCE proposed to design, construct, own, and operate the tie-lines extending from the respective points of change in ownership (POCO) poles across the project site boundary to the interconnection points at the Whirlwind Substation 220 kV bus.

The SCE Whirlwind Substation is accessible from 170th Street West and has an established footprint of approximately 100 acres. The Whirlwind Substation improvements would be completely within the 100-acre established footprint. However, the tie-lines connecting the project site and Whirlwind Substation would be located outside the established footprint, but still on SCE-owned property. The preliminary SCE design includes the electric tie-lines extending overhead from the two POCOs located in the project boundary in the South BESS and West BESS areas to SCE's Whirlwind Substation. The project would

require two tie-lines, each consisting of overhead 220 kV conductors and a ground wire. SCE would either construct the tie-lines as single-circuit (three conductors) or double-circuit (six conductors) with tubular steel poles or towers. Fiberoptic communication lines linking the collector substations and the existing communications room at the Whirlwind Substation would also be needed. To ensure reliability, two independent communication lines would be needed for each tie-line. The communication lines would be placed underground, overhead, or configured with a combination of both.

For the analyses provided in this Draft EIR, it is assumed that the communication lines would be installed in two separate underground trenches. This assumption provides the maximum disturbance area due to ground disturbance that would occur from the associated trenching and backfilling. If the communications lines are constructed underground, they would be installed in relatively small (2-5-inch) diameter conduit or similar utility-standard conduit sizes. The communication lines would also require an approximately 4-foot by 4-foot by 6-foot manhole "meet-me" manhole structure or a functionally equivalent access structure located outside the SCE Whirlwind Substation fenceline.

The need for underground communications and precise locations for the underground installations would be determined during SCE's detailed design. For the analysis of the project's environmental impacts, it is assumed that trenching and other SCE work activities outside of the Whirlwind Substation, including tie-line access clearing, installation of communications lines, installation of tie-line support poles or towers, stringing of overhead conductors, and operation and maintenance of the tie-lines to the POCOs, would disturb all land within a 100-foot-wide corridor (approximately 6.4 acres) centered on each of the tie-line alignments. SCE's detailed design would minimize disturbance to the extent practical for safe and efficient construction and operations within the 100-foot-wide corridors.

Within the existing Whirlwind Substation, each tie-line would require the installation of facilities for a new 220 kV switchrack and line positions to terminate the tie-lines and telecommunications infrastructure. A preliminary scope description for SCE's portion of the tie-line extending from the POCOs is provided in **Table 3-3**, *Preliminary SCE Interconnection Work Scope Summary,* located in **Chapter 3,** *Project Description*.

The location of the tie-line infrastructure between the POCO and the Whirlwind Substation would be determined by SCE and would be subject to review by the CPUC. SCE would be responsible for constructing the interconnection position and associated structures to terminate the BESS interconnection, as well as installing and relaying the telecommunications equipment associated with the new connection.

Temporary Laydown Yard

An approximately three-acre temporary laydown area would be needed for project construction. The temporary laydown area would be located adjacent to the South BESS area driveways near 170th Street West. The laydown area would be temporarily fenced and secured during construction and would be used for the temporary storage of materials and equipment.

Incident Command Center

The project would include an Incident Command Center consisting of a dedicated fire water and fire alarm annunciator panel located near 170th Street West that would be located a minimum of 300 feet from the closest battery containers. Two optional locations are proposed in the project site plan, as shown in **Figure 3.7-1**, *Proposed Site Plan*, located in **Chapter 3,** *Project Description,* and the final location would be determined in consultation with KCFD. In the event of a fire, the fire alarm annunciator panel would provide first responders with up-to-date optics of what is occurring with the BESS areas. KCFD would use this

location to stage incoming emergency response equipment and for a multi-agency command post at a safe distance where full personal protective equipment would not be required.

1.5 Environmental Impacts

CEQA Guidelines Section 15128 requires that an EIR contain a statement briefly indicating the reasons why any new and possibly significant effects of a project were determined not to be significant and were, therefore, not discussed in detail in the EIR. The County has engaged the public to participate in the scoping of the environmental document.

The contents of this Draft EIR were established based on a notice of preparation (NOP) prepared in accordance with the CEQA Guidelines, as well as public and agency input that was received during the scoping process. A summary of the comments received on the NOP is located in **Chapter 2**, *Introduction*.

Impacts Not Further Considered in this Draft EIR

Based on the findings of the NOP and the results of scoping, a determination was made that it is not likely that the project would result in significant environmental effects to Recreation and Population and Housing. These two resource areas were eliminated from further evaluation based on the findings of the NOP prepared for the project (**Appendix A**).

Impacts of the Project

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

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

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

Less-than-Significant Impacts

After further study and environmental review in this Draft EIR, certain direct, indirect, and cumulative impacts associated with the project would have less than significant impacts or could be reduced to less than significant levels with implementation of mitigation measures. **Table 1-3**, *Summary of Project Impacts that are Less than Significant or Less than Significant with Mitigation*, presents those impacts of the project that were determined to be less than significant or less than significant with the implementation of mitigation measures. Less-than-significant cumulative impacts are also included in this table. **Section 4.1** through **Section 4.18** of this Draft EIR present detailed analysis of these impacts and describe the means by which the mitigation measures would reduce impacts to a less than significant level.

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

Impact	Mitigation Measures
Aesthetics (Project)	MM 4.1-1 through MM 4.1-6
Agriculture and Forestry Resources (Project and Cumulative)	No mitigation required
Air Quality (Project, except criteria air pollutants for construction)	MM 4.3-1 through MM 4.3-8, MM 4.11-1 and MM 4.15-1
Biological Resources (Project, with the exception of WJT)	MM 4.4-1 through MM 4.4-20, as well as MM 4.1-1, MM 4.1-3, MM 4.1-6, MM 4.3-1 through MM 4.3-3, MM 4.9-1, MM 4.9-2, MM 4.10-1, MM 4.10-2, MM 4.13-1, and MM 4.14-1
Cultural Resources (Project and Cumulative)	MM 4.5-1 through MM 4.5-5
Energy (Project and Cumulative)	No mitigation required
Geology and Soils (Project and Cumulative)	MM 4.7-1 through MM 4.7-7 and MM 4.10-1
Greenhouse Gas Emissions (Project and Cumulative)	No mitigation required
Hazards and Hazardous Materials (Project and Cumulative)	MM 4.1-1, MM 4.1-3, MM 4.9-1 through MM 4.9-3, MM 4.10-1, MM 4.14-1, MM 4.15-1, MM 4.17-1
Hydrology and Water Quality (Project and Cumulative)	MM 4.4-4, MM 4.4-19, MM 4.4-20, MM 4.9-1, MM 4.10-1, MM 4.10-2, and MM 4.17-1
Land Use and Planning (Project and Cumulative)	MM 4.11-1
Mineral Resources (Project and Cumulative)	No mitigation required
Noise (Project and Cumulative)	MM 4.13-1 through MM 4.13-4
Public Services (Project and Cumulative)	MM 4.14-1 through MM 4.14-4
Transportation and Traffic (Project and Cumulative)	MM 4.15-1
Tribal Cultural Resources (Project and Cumulative)	MM 4.5-1 through MM 4.5-5
Utilities and Service Systems (Project and Cumulative)	MM 4.1-1, 4.10-1, MM 4.10-2, MM 4.17-1 and MM 4.17-2
Wildfire (Project)	MM 4.1-1, MM 4.1-3, MM 4.9-1, MM 4.10-1, MM 4.10-2, MM 4.14-1, and MM 4.15-1

Significant and Unavoidable Impacts

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

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

- Aesthetics (Cumulative)
- Air Quality (Project construction only and Cumulative)
- Biological Resources (Project WJT only and Cumulative)
- Wildfire (Cumulative)

Table 1-4, *Summary of Significant and Unavoidable Project-Level and Cumulative Impacts of the Project*, presents those impacts at the project level and cumulatively. **Sections 4.1**, **4.3**, **4.4**, and **4.18** of this Draft EIR present detailed analyses of these impacts and describe the means by which the mitigation measures listed in **Table 1-4,** *Summary of Significant and Unavoidable Project-Level and Cumulative Impacts of the Project*, would reduce the severity of impacts to the extent feasible.

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

Resources	Project Impacts	Cumulative Impacts
Aesthetics	There would be no significant and unavoidable project-level impacts.	Despite implementation of **Mitigation Measures (MM) 4.1-1** through **MM 4.4-5**, the project would contribute to a cumulatively significant and unavoidable aesthetic impact related to visual character. While other projects in the area would also be required to implement various mitigation measures to minimize impacts, the cumulative conversion of largely undeveloped desert habitat and landscapes to energy and utility-related uses cannot be mitigated to a degree that impacts are no longer significant. Even with the implementation of **MM 4.1-1** through **MM 4.1-5**, the project's contribution to significant impacts associated with visual character in the Antelope Valley would be cumulatively **significant and unavoidable**.
Air Quality	Project-generated construction emissions would exceed Significant Impact Levels for PM_{10}, for which the region is designated nonattainment. Even with the implementation	Project-generated construction emissions along with other cumulative projects would cumulatively exceed Significant Impact Levels for PM_{10}, for which the region is designated nonattainment. For

Resources	Project Impacts	Cumulative Impacts
	of **MM 4.3-1** through **MM 4.3-8**, the project's contribution to regional air quality impacts associated with short-term construction activities would be considered **significant and unavoidable**.	these reasons, and even with the implementation of **MM 4.3-1** through **MM 4.3-8**, the project's contribution to regional air quality impacts associated with short-term construction activities would be considered cumulatively **significant and unavoidable**.
Biological Resources	Implementation of the project would have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations by the CDFW. Approximately 76 percent of western Joshua tree (WJT) within the project site and 50-foot buffer are subject to potential direct impacts. In addition, approximately 11 percent of WJT stems are subject to potential indirect impacts. While implementation of **MM 4.4-1** through **MM 4.4-4**, and **MM 4.4-7** would reduce impacts to WJT, the County considers impacts to WJT to be **significant and unavoidable** due to the number of WJT that would be impacted to implement the project. Impacts on all other potentially affected species or habitats would be less than significant.	As large-scale energy and utility development and urbanization continue in Kern County, impacts on biological resources are increasing. When considered together with cumulative projects in the Antelope Valley, the project could contribute to the loss, fragmentation, and degradation of habitat for special-status species. Although implementation of **MM 4.1-1** through **MM 4.1-3**, **MM 4.4-1** through **MM 4.4-20, MM 4.10-1** and **MM 4.10-2** would reduce project-level impacts, the combined effects of the project and cumulative projects would have the potential to result in cumulatively **significant and unavoidable impacts** on biological resources.
Wildfire	There would be no significant and unavoidable project-level impacts.	Despite implementation of **Mitigation Measures MM 4.10-1** and **MM 4.14-1**, given the project's location in a rural area with limited existing infrastructure, the project and cumulative projects would have the potential to result in cumulatively **significant and unavoidable** wildfire impacts related to: the exposure of project occupants from a wildfire, the installation or maintenance of associated infrastructure; and the exposure of people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes.

Growth Inducement

The KCGP 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 occur when a project increases employment levels, removes barriers to development, or provides resources that lead to secondary growth. The project would not induce substantial population growth through employment. As described above, construction workers not drawn from the local labor pool would be accommodated in existing housing or lodging facilities, such as extended stay hotels, apartments, RV parks, or homes for rent or sale, in nearby communities, including Rosamond,

Mojave, and Lancaster. During operations, there would be up to 12 employees, including up to six full-time and six part-time equivalent personnel. These employees are anticipated to commute from surrounding communities, and the majority would likely be drawn from the existing regional labor pool.

The project would provide up to 9,200 MWh of battery energy storage capacity to support the integration of renewable energy resources and enhance grid reliability. Development of energy-related infrastructure is a response to existing and forecasted energy demand and does not, in itself, facilitate new growth. Kern County planning documents already anticipate growth in the region and the corresponding increase in energy demand. Accordingly, projected growth drives the need for energy-related infrastructure, such as the project, rather than it inducing growth.

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-related projects have contained similarly detailed analyses of growth-inducing impacts. Their conclusions that increasing the energy supply or enhancing grid reliability 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 would necessarily be too speculative and tenuous to merit extensive analysis. Consistent with these precedents, the project would support renewable energy storage and grid reliability to meet existing and projected energy needs associated with anticipated regional growth. The project would not remove constraints to development, induce substantial population growth, or otherwise facilitate growth beyond that already projected in applicable planning documents. Therefore, the level of analysis provided in this Draft EIR adequately informs the public and decision makers of the growth-inducing impacts of the project.

Irreversible Impacts

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

The project would commit nonrenewable resources during project construction. Energy resources, such as diesel and gasoline fuel, would be consumed during the use of off-road equipment and on-road vehicles, and electricity would be consumed to operate lighting and electrical equipment. The use of nonrenewable resources for project construction would be temporary.

During project operations, oil, gasoline fuel, and other fossil fuels and nonrenewable resources would be consumed. These include mineral oil contained in transformers, pressurized gas and coolant in climate control equipment, fossil fuels for project employee commute trips, and backup generator fuel. 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 KCGP and Willow Springs Specific Plan, as a matter of public

policy, those commitments have been determined to be acceptable. Compliance with the KCGP and Willow Springs Specific Plan would ensure that any irreversible environmental changes associated with those commitments would be minimized.

1.6 Alternatives to the Project

CEQA Guidelines Section 15126.6 states that an EIR must address "a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives." Based on the significant environmental impacts of the project, the aforementioned objectives established for the project and the feasibility of the alternatives considered, a range of alternatives is analyzed below and discussed in detail in **Chapter 6**, *Alternatives*, of this Draft EIR.

Alternatives Considered and Rejected

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

- Alternative Site Alternative
- Alternative Technology Alternative

Alternative Site

The Alternative Site Alternative would involve developing the project on a different parcel or group of parcels within Kern County, rather than on the proposed project site. Although a specific location has not been identified at this time, the alternative project site would likely be situated within the Antelope Valley region of Kern County. Similar to the proposed project, this alternative is assumed to include the construction, operation and maintenance, and eventual decommissioning of a BESS facility with equivalent storage capacity of 9,200 MWh on approximately 120 acres. The alternative would also require one or more tie-lines connecting to the Whirlwind Substation or another existing substation within SCE's service area.

CEQA Guidelines Section 15126.6(f)(2(a) states that the key and initial step in considering an alternative site is whether "any of the significant effects of the project would be avoided or substantially lessened" in relocating the project, while remaining consistent with the same basic objectives of the project. The Antelope Valley has attracted renewable energy development and BESS facility applications that are being proposed for vacant land or land with a history of agricultural uses. Although other sites of comparable size, configuration, and use history may exist in the region, development of a BESS facility with similar characteristics would likely result in environmental impacts comparable or greater than those of the proposed project, including potentially significant and cumulatively considerable impacts related to

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

The project's location immediately north of the Whirlwind Substation minimizes the length of required tie-lines and limits the number of associated tie-line poles and other aboveground infrastructure. By contrast, an alternative site may require longer tie-line corridors and a larger disturbance footprint, increasing the potential for impacts on aesthetics, biological resources, and other environmental resources. Accordingly, an alternative site would not be expected to substantially lessen the significant environmental impacts of the project while meeting the project objectives. In addition, an alternative site for the project is not considered "potentially feasible" because there are no suitable sites within the project proponent's control that would reduce project impacts.

As noted above, alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated because it would be infeasible to require the project proponent to acquire an alternative site of adequate size, and it would not avoid or substantially reduce the significant environmental effects of the proposed project.

Alternative Technology

The Alternative Technology Alternative considers delivering the project's required energy storage capacity using alternative battery chemistries or energy storage technologies in place of lithium-ion (Li-ion), as proposed by the project. It is assumed that this alternative would maintain the same interconnection configuration and would remain consistent with the project footprint size. For instance, in terms of their energy and power density, size (energy/power rating capacity), discharge time, storage duration, self-discharge rate, depth of discharge, response time, lifetime, application, and storage cost (capital, operation, and maintenance cost).

There are different types of energy storage systems that can be appropriate for specific applications based on their unique characteristics. Therefore, energy storage systems can be classified based on their characteristics and several methods. Candidate technologies considered as part of this alternative include the following and are discussed further in **Chapter 6**, *Alternatives*, of this Draft EIR.

- Iron-air batteries;
- Sodium-ion batteries, and
- Compressed air storage systems.

Sodium-ion battery systems may be applicable in certain situations or become more viable in the future; however, they are not suitable for the proposed project due to the current uncertainty in supply chain sustainability, technological maturity, and commercial feasibility, as well as the larger development footprint required to achieve comparable storage capacity. Consequently, the use of a sodium-ion battery system would not substantially reduce the project's significant environmental impacts and would not meet most of the project's objectives.

Iron-air battery systems may be applicable for long-duration energy storage; however, they are not suitable for the proposed project due to lower electrical efficiencies, longer recharging durations, and larger development footprint requirements. Although the technology continues to advance, it is not yet widely established or proven for utility-scale energy storage, and its economic feasibility, reliability, and

commercial financeability remain uncertain. Therefore, the use of an iron-air battery system would not substantially reduce the project's significant environmental impacts and would not meet most of the project's objectives.

Compressed air energy storage systems are also not suitable for the proposed project because they generally exhibit lower round-trip efficiency and energy density, slower response times, and require specific subsurface geologic conditions that are not available at all locations. Therefore, the use of a compressed air energy storage system would not be feasible and would not meet most of the project's objectives.

In accordance with the CEQA Guidelines (Section 15126.6[c]), 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:

- Alternative technologies would require larger development footprints to achieve comparable storage capacity; potentially resulting in greater impacts on aesthetics, air quality, biological resources, hydrology and water quality, land use and planning, noise, and transportation and traffic.
- It would be infeasible to require the project proponent to acquire a site of adequate size.
- It would be infeasible to require the project proponent to construct an energy storage system that is not reliable, economically feasible, and commercially financeable.

Overall, non-lithium energy storage system technologies continue to evolve; however, limitations such as scalability, technological maturity, operational performance, and site requirements preclude them from being feasible alternatives to the proposed Li-ion BESS facility.

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. Kern County has considered in this Draft EIR the following alternatives, which are identified in **Table 1-5**, *Summary of Alternatives* and discussed individually below. Within **Table 1-6**, *Comparison of Alternatives*, comparative impacts are identified as "Less", "Similar", or "greater" than impacts resulting from the proposed project. Comparative levels of significance are denoted by NI (No Impact), LTS (Less Than Significant), and SU (Significant and Unavoidable):

- Alternative 1: No Project Alternative
- Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative
- Alternative 3: Reduced Footprint Alternative

Table 1-5, *Summary of Alternatives*, provides a summary of the relative impacts and feasibility of each alternative.

TABLE 1-5: SUMMARY OF ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction, operation and maintenance, and eventual decommissioning of a 9,200 MWh capacity BESS facility on approximately 120 acres. Electricity would be transferred between the BESS facility and the regional grid via two tie-line routes to the SCE Whirlwind Substation. Approval of ZCCs, CUPs, a ZV, and Nonsummary Vacation would be required.	• N/A
Alternative 1: No Project Alternative	No development would occur on the project site. The project site would remain unchanged.	• Required by CEQA. • Avoids need for ZCCs, CUPs, ZVs, and vacation of easements. • Avoids all significant and unavoidable impacts. • Would not have the potential to offset greenhouse gas (GHG) emissions from the operation of an energy storage facility. • Less impact in all remaining environmental issue areas. • Does not meet any of the project proponent's project objectives.
Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative	Project site would be developed to the maximum intensity allowed under existing Kern County General Plan or Willow Springs Specific Plan land use designations and zoning classifications and other existing applicable allowances.	• Avoids need for ZCCs, CUPs, ZVs, and vacation of easements • Reduces impacts to aesthetics, agriculture and forestry resources, and land use and planning. • Similar impacts to biological resources, geology and soils, mineral resources, noise, public services, and wildfire. • Greater overall impacts to all other resource topics. • Would not eliminate or substantially lessen significant and unavoidable impacts associated with air quality (project criteria pollutants only and cumulative), biological resources (project WJT only and cumulative), or wildfire (cumulative only). • Does not meet any of the project proponent's project objectives.
Alternative 3: Reduced Footprint Alternative	Eliminating the West BESS area from development would reduce the project site from approximately 120 acres to approximately 70 acres and the project's total energy storage capacity by up to 450 MW (from 1,150 MW to 700 MW). The same discretionary entitlements	• Similar impacts related to land use and planning, and wildfire. • Greater energy and GHG emissions impact as lower renewable energy storage contribution would offset less GHG emissions.

Alternative	Description	Basis for Selection and Summary of Analysis
	requested for the project would be required for this alternative.	• Reduces impacts in all remaining environmental issue areas. • Would not eliminate or substantially lessen any significant and unavoidable impacts associated with aesthetics (cumulative only), biological resources (project WJT only and cumulative), or wildfire (cumulative only). • Would reduce contributions to State GHG objectives and SCE's renewable energy storage capacity goals, would not be as cost effective, would not completely minimize the need for new infrastructure to connect the storage capacity to the grid, and would not support Kern County's economy to the greatest extent. • Partially meets the project proponent's project objectives.

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TABLE 1-6: COMPARISON OF ALTERNATIVES

Environmental Resource	Project	Alternative 1: No Project Alternative	Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative	Alternative 3: Reduced Footprint Alternative
Aesthetics	Less than significant with mitigation (project only)	Less (NI)	Less (LTS)	Less (SU)
	Significant and unavoidable (cumulative only)	Less (NI)	Less (LTS)	Less (SU)
Agriculture and Forestry Resources	Less than significant	Less (NI)	Less (LTS)	Less (LTS)
Air Quality	Less than significant with mitigation (project only; except for criteria pollutants)	Less (NI)	Greater (LTS)	Less (LTS)
	Significant and unavoidable (cumulative only)	Less (NI)	Greater (SU)	Less (LTS)
Biological Resources	Less than significant with mitigation (project; except for WJT)	Less (NI)	Similar (SU)	Less (SU)
	Significant and unavoidable (project WJT only and cumulative)			
Cultural Resources	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)
Energy	Less than significant	Less (NI)	Greater (LTS)	Greater (LTS)
Geology and Soils	Less than significant with mitigation	Less (NI)	Similar (LTS)	Less (LTS)
Greenhouse Gas Emissions	Less than significant	Greater (LTS)	Greater (LTS)	Greater (LTS)
Hazards and Hazardous Materials	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)
Hydrology and Water Quality	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)
Land Use and Planning	Less than significant with mitigation	Less (NI)	Less (NI)	Less (LTS)
Mineral Resources	Less than significant	Less (NI)	Similar (LTS)	Similar (LTS)

Environmental Resource	Project	Alternative 1: No Project Alternative	Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative	Alternative 3: Reduced Footprint Alternative
Noise	Less than significant with mitigation	Less (NI)	Similar (LTS)	Less (LTS)
Public Services	Less than significant with mitigation	Less (NI)	Similar (LTS)	Less (LTS)
Transportation	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)
Tribal Cultural Resources	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)
Utilities and Service Systems	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)
Wildfires	Less than significant with mitigation (project)	Less (NI)	Similar (LTS)	Similar (LTS)
	Significant and unavoidable (cumulative only)	Less (NI)	Similar (SU)	Similar (SU)
Meet Project Objectives?	All	None	None	Partially
Reduce the Project's Significant and Unavoidable Impacts?	N/A	All	Some	Some

Alternative 1: No Project Alternative

As required by the CEQA Guidelines Section 15126.6, this section of this Draft EIR describes and analyzes a "no project" alternative for the purpose of comparing the impacts of approving the proposed project with the impacts of not approving the proposed project. Alternative 1, the No Project Alternative, assumes that the development of the 9,200 MWh capacity BESS facility would not occur, and would not require the Zone Change Cases, Conditional Use Permits, Zone Variance, or Nonsummary Vacations. The No Project Alternative would maintain the current zoning and land use classifications, and the project site would remain in its existing condition as primarily undisturbed privately owned land. Therefore, the No Project Alternative would not result in construction and operation of a utility-scale electric storage system that would assist the State of California in complying with the RPS and GHG emission reduction standards and grid reliability objectives.

Alternative 2: Specific Plan and Zoning Build-Out Alternative

Alternative 2, the General Plan/Specific Plan and Zoning Build-Out Alternative, assumes the project site would be developed to the maximum intensity allowed under the existing Kern County General Plan (KCGP) and Willow Springs Specific Plan land use and zoning classifications. As described in **Chapter 3**, *Project Description,* the project site has the following KCGP Map Codes: 3.3 (Other Facilities), 4.1 (Accepted County Plan Areas); 5.6 (Minimum 2.5 Gross Acres/Unit); 5.7 (Minimum 5 Gross Acres/Unit); 5.75 (Minimum 10 Gross Acres/Unit); and 5.8 (Minimum 20 Gross Acres/Unit). Additionally, the Kern County Zoning Ordinance designates the project site as A (Exclusive Agriculture) and E (Estate). Many project parcels also contain one or more of the following combining districts: Floodplain Secondary (FPS), Wind Energy (WE), and Residential Suburban (RS).

Implementation of this alternative would consist of development in accordance with the existing designations, which would allow agricultural operations and the construction of low-density residential development. The project site would be developed in accordance with the applicable KCGP and Willow Springs Specific Plan goals, policies, and implementation measures. Under this alternative, no BESS facilities would be developed.

Alternative 3: Reduced Footprint Alternative

Alternative 3, the Reduced Footprint Alternative, would be similar to the proposed project except that the West BESS area would not be developed for BESS uses. Eliminating the West BESS area from development would reduce the project site by approximately 60 percent, from approximately 120 acres to approximately 70 acres. This alternative would also reduce the project's energy storage capacity by approximately 40 percent, from 9,200 MWh to 5,600 MWh. The same discretionary entitlements, including ZCCs, CUPs, ZVs, and vacation of easements, would be required for this alternative.

Environmentally Superior Alternative

As presented in the comparative analysis above, and as shown in **Table 1-6,** *Comparison of Alternatives*, there are a number of factors in selecting the environmentally superior alternative. An EIR must identify the environmentally superior alternative to the project. Alternative 1, the No Project Alternative, would be

environmentally superior to the project on the basis of its minimization or avoidance of physical environmental impacts. However, CEQA Guidelines Section 15126.6(e)(2) states:

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

Because the No Project Alternative cannot be identified as the Environmentally Superior Alternative under CEQA, the Reduced Footprint Alternative is considered the Environmentally Superior Alternative. Compared to the proposed project, the Reduced Footprint Alternative would result in reduced impacts related to aesthetics, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services, transportation, tribal cultural resources, utilities and service systems, and wildfire. Specifically, this alternative would avoid the proposed project's significant and unavoidable impacts related to cumulative air quality.

However, the Reduced Footprint Alternative has the potential to result in comparatively greater GHG- and energy-related impacts than the proposed project because of the reduction in renewable energy storage capacity and integration, and associated potential GHG emission reductions. While GHG and energy impacts would remain less than significant, this alternative would be less effective than the proposed project in advancing the State GHG reduction goals. In addition, the Reduced Footprint Alternative would not substantially lessen or avoid the proposed project's potentially significant and unavoidable impacts related to aesthetics (cumulative only), biological resources (project WJT only and cumulative), and wildfire (cumulative only).

The Reduced Footprint Alternative would partially meet the project objectives. Specifically, it would continue to utilize proven and established energy storage technology, be sited and designed in an environmentally responsible manner, locate energy storage capacity near an abundant source of renewable energy to optimize transmission efficiency, and utilize land that is commercially viable to secure. However, because the alternative would reduce the project's overall storage capacity, it would not support State renewable energy and GHG reduction objectives to the same degree as the proposed project. Additionally, it would not minimize the need for new infrastructure connecting energy storage capacity to the electrical grid to the same extent as the proposed project.

Nevertheless, because the Reduced Footprint Alternative would reduce environmental impacts to a greater extent than the General Plan and Zoning Build-Out Alternative while still meeting many of the project's objectives, it is identified as the Environmentally Superior Alternative.

1.7 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 summarized in **Chapter 2**, *Introduction*, and the Notice of Preparation is provided in **Appendix A**. In summary, the following

environmental resource areas were identified during scoping and are addressed in the appropriate sections of **Chapter 4**, *Environmental Setting, Impacts, and Mitigation Measures*:

- Impacts related to aesthetics
- Impacts related to air quality
- Impacts related to biological resources
- Impacts related to land use
- Impacts related to hydrology and water quality resources
- Impacts related to hazards and hazardous materials
- Impacts related to noise
- Impacts related to wildfire

1.8 Issues to Be Resolved

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

- Determine whether the EIR adequately describes the environmental impacts of the project.
- Identify a preferred choice among alternatives.
- Determine whether the recommended mitigation measures should be adopted or modified.
- Determine whether additional mitigation measures need to be applied to the project.

1.9 Summary of Environmental Impacts and Mitigation Measures

Table 1-7, *Summary of Impacts, Mitigation Measures, and Level of Significance*, summarizes the environmental impacts of the project, mitigation measures, and unavoidable significant impacts identified and analyzed in **Chapter 4**, *Environmental Setting, Impacts, and Mitigation Measures*, of this Draft EIR.

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

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

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		d. Trash and food items shall be contained in closed containers to be locked 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 building permits, the project proponent/operator shall submit a proposed color scheme and treatment plan for review and approval by the Kern County Planning and Natural Resources Department, which will ensure project facilities, including operations and maintenance buildings, tie-line poles, etc., blend in with the colors found in the natural landscape. Color treatments shall result in matte or nonglossy/non-reflective finishes. **MM 4.1-3:** Wherever possible, within the proposed project boundary, native vegetation shall remain undisturbed unless mowing or grading is necessary for placement of project components. 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 native vegetation within and adjacent to the proposed project boundary shall remain in place as permitted by the County's Fire Code. Prior to the commencement of project construction 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, but is not limited to, the following: a. In areas supporting native vegetation that would be temporarily disturbed during construction and decommissioning (including grading or removal of root balls resulting in loose soil), the ground surface shall be recontoured to natural grade (if the grade was modified during the temporary disturbance activity) and revegetated with a native seed mix or native plants or allowed to re-vegetate with the existing native seed bank in topsoil where possible to establish revegetation. Revegetation efforts shall be consistent with all Regional Water Quality Control Board (RWQCB) and Kern County Fire Department requirements outlined in permits or conditions of project approval. b. Revegetation would occur prior to or during seasonal rains to promote passive restoration of the area to pre-project conditions, if feasible. However, if invasive plant species were present, these species would not be restored. An area subjected to temporary ground disturbance means any area that is disturbed but will not be subjected to further disturbance as part of the project. This does not include areas already designated as urban/developed. Areas that contain permanent project	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		features such as security fencing, substations, BESS facilities, stormwater basins, perimeter and maintenance roads do not require revegetation. Prior to seeding temporary ground disturbance areas, the Lead Biologist will review the seeding palette to ensure that no seeding of invasive plant species, as identified in the most recent version of the California Invasive Plant Inventory for the region, will occur. c. The plan must include but is not limited to: (1) the approved California native seed mix that will be used on-site, (2) a timeline for seeding the site, (3) details of which areas are to be revegetated, (4) a list of the consultation efforts completed, and (5) the methods and schedule for installation of fencing that complies with wildlife agency regulations, and a clear prohibition of the use of toxic rodenticides. d. 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 at the same time). e. Vegetation/ground cover shall be continuously maintained on the site by the project operator to maintain fire safety requirements. f. Revegetation of temporarily disturbed areas shall be monitored annually for a three-year period following restoration activities that occur post-construction and post-decommissioning until vegetative cover is evenly established over 70 percent of disturbed and exposed areas of soil. In areas that naturally have low vegetative coverage (e.g., deserts), 70 percent of the natural conditions of local undisturbed areas are acceptable. Based on annual monitoring visits during the three-year period, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for the three-year period. Should efforts to reach a 70 percent rate not be feasible through consultation with a qualified botanist, evidence of such shall be submitted to the Kern County Planning and Natural Resources Department, and an appropriate coverage rate shall be established. The three-year monitoring program is intended to ensure the site naturally achieves native plant diversity, establishes perennials, and is consistent with conditions prior to implementation of the proposed project, where feasible.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		MM 4.1-4: The project proponent shall install fence slats or similar view-screening materials, as approved by the Kern County Planning and Natural Resources Department, in on-site perimeter fencing for the portion of the battery energy storage system that abuts parcels zoned for residential use, including E (Estate Residential), unless the adjacent property is owned by the project proponent (to be verified by the Kern County Planning and Natural Resources Department) or a public or private agency that has submitted correspondence to the Kern County Planning and Natural Resources Department requesting this requirement to be waived. Should the project proponent sell the adjacent property, slat fencing or similar view-screening materials shall be installed prior to the sale. **MM 4.1-5:** For portions of the project that abut residentially zoned parcels not controlled by the project proponent, a setback as specified on the approved site plan, and no less than 50 feet from the approved project boundary, which may include the centerline of any public roadway or easement, is required. If a public roadway or easement does not exist between the project site and the residentially zoned property, the 50-foot setback shall be measured from the edge of the shared property line. The project proponent shall be responsible for continued dust control and weed maintenance within this setback area. No battery energy storage arrays, substations, or operating equipment shall be located in or stored in the identified setback area.	
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	Implementation of **Mitigation Measure MM 4.1-2** is required. **MM 4.1-6:** Prior to the issuance of building permits, the project proponent shall demonstrate to the Kern County Planning and Natural Resources Department, through the submittal of a lighting plan, 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 properties. Lenses and bulbs shall not be exposed or extend below the shields.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.1: Cumulative Impacts	Potentially significant	Implementation of **Mitigation Measures MM 4.1-1** through **MM 4.1-6** is required.	Significant and unavoidable (Visual Character) Less than significant (Scenic Vista; Scenic Resource; Light and Glare)
4.2 Agriculture and Forestry Resources			
Impact 4.2-1: The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.	No impact	No mitigation measures are required.	No impact
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	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.2-3: The project would conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined in Public Resources Code Section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104 (g).	No impact	No mitigation measures are required.	No impact
Impact 4.2-4: The project would result in the loss of forestland or conversion of forest land to non-forest use.	No impact	No mitigation measures are required.	No impact
Impact 4.2-5: The project would involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use.	Less than significant	No mitigation measures are required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.2-6: The project would result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code.	No impact	No mitigation measures are required.	No impact
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.	Less than significant	Though the impact is less than significant, implementation of **Mitigation Measures MM 4.3-1** through **MM 4.3-5**, and **MM 4.11-1** would further reduce impacts. **MM 4.3-1:** The project shall continuously comply with applicable rules and regulations set forth by the East Kern Air Pollution Control District. **MM 4.3-2:** To control fugitive PM emissions during implementation of the project, prior to the issuance of grading or building permits, the project proponent shall prepare a comprehensive Site-Specific Fugitive Dust Control Plan in coordination with the Eastern Kern Air Pollution Control District. A copy of the final plan shall be submitted to the Kern County Planning and Natural Resources Department to be kept on file. The plan shall include all Eastern Kern Air Pollution Control District-recommended measures, including but not limited to the following: a. Identify a comprehensive grading schedule for the entire project site. When feasible, grading activities shall be phased and minimized to those areas necessary for project access and installation of battery energy storage arrays and other areas of infrastructure associated with the battery energy storage system. b. The Site-Specific Fugitive Dust Control Plan shall identify, in addition to those measures required by the air district, measures being undertaken during construction activities, operational activities, and decommissioning activities to	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		ensure fugitive dust being blown off-site is minimized. Measures may include, but are not limited to: c. Use of water trucks as required for the expected level of winds in the area. d. Use of dust suppressant (i.e., soil binders or mulch). e. Pre-seeding and irrigating prior to construction to create vegetation with useful root structures. f. Construction of dust screening in appropriate locations around the project site (i.e., fence slats or mesh screening). g. A copy of the final Site-Specific Fugitive Dust Control Plan shall be kept at the site construction office and measures included in the Site-Specific Fugitive Dust Control Plan shall be included on Grading Plans issued for the project by the Kern County Public Works Department. **MM 4.3-3:** The project proponent and/or its contractors shall continuously implement the following measures during project construction, operation and decommissioning to control emissions, and are 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. All equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 5 minutes. Engine idling of all equipment shall be minimized. 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 the manufacturer's guidelines.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		h. All on-site off-road equipment and on-road vehicles shall meet the recent California Air Resources Board engine emission standards or alternatively fueled equipment, such as compressed natural gas, liquefied natural gas, or electric, as appropriate. i. Existing electric power sources shall be used to the extent feasible. This measure would minimize the use of higher polluting gas or diesel generators. **MM 4.3-4:** Prior to commencement of any on-site construction activities (i.e., fence construction, mobilization of construction equipment, initial grading), including decommissioning, the project proponent shall provide written notice to the public through mailing a notice to property owners of all parcels within 1,000 feet of the project site, no sooner than 15 days prior to construction activities. The notices shall include the construction schedule, a telephone number and email address where complaints and questions can be registered. Additionally, a minimum of one sign, legible at a distance of 50 feet, shall also be posted at the construction sites or adjacent to the nearest public access to the main construction entrances throughout construction activities which include the construction schedule (updated as needed) and a telephone number where complaints can be registered. Documentation that the public notice has been sent and the sign has been posted shall be provided to the Kern County Planning and Natural Resources Department. **MM 4.3-5:** Prior to the issuance of any grading or building permit, the project proponent shall establish a "construction coordinator" and submit written documentation that includes their phone number, email address, and mailing address. The construction coordinator shall be responsible for the following: a. Responding to any local complaints about construction activities. The construction coordinator shall determine the cause of the construction complaint and shall be required to implement reasonable measures such that the complaint is resolved. b. Ensuring all appropriate construction notices have been made available to the public and that all appropriate construction signs have been installed. Maintaining an ongoing up-to-date log of all construction-related complaints (i.e., blowing dust, inability to access parcels, etc.) during project construction activities. The log shall include the nature of the complaint and the measures that were undertaken to address the concerns. Upon request, the construction coordinator shall provide the log to the Planning and Natural Resources Department no later than three business days from the request.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.3-2: The project would expose sensitive receptors to substantial pollutant concentrations.	Potentially significant	Implement **Mitigation Measures MM 4.3-1** through **MM 4.3-5**, **MM 4.15-1,** and the following: **MM 4.3-6:** To minimize personnel and public exposure to potential Valley Fever-containing dust on and offsite, the following control measures shall be implemented during project construction: a. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved offsite to other work locations. b. Wherever possible, grading and trenching work shall be phased so that earth-moving equipment is working well ahead or downwind of workers on the ground. c. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area. d. In the event that a water truck runs out of water before dust is sufficiently dampened, ground workers being exposed to dust shall leave the area until a truck can resume water spraying. e. To the greatest extent feasible, heavy-duty earth-moving vehicles shall be closed-cab and equipped with HEP-filtered air system. f. Workers shall receive training in procedures to minimize activities that may result in the release of airborne *Coccidioides immitis* (CI) spores, to recognize the symptoms of Valley Fever, and shall be instructed to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Evidence of training shall be provided to the Kern County Planning and Natural Resources Department. g. A Valley Fever informational handout shall be provided to all on-site construction personnel. The handout shall, at a minimum, provide information regarding the symptoms, health effects, preventative measures, and treatment. Additional information and handouts can be obtained by contacting the Kern County Public Health Services Department. h. On-site personnel shall be trained on the proper use of personal protective equipment, including respiratory equipment. National Institute for Occupational Safety and Health–approved respirators shall be provided to on-site personal upon request. When exposure to dust is unavoidable, provide appropriate National Institute for Occupational Safety & Health-approved respiratory protection to affected workers, if necessary. If respiratory protection is deemed necessary, employers must develop and implement a respiratory protection program in	Significant and unavoidable (criteria air pollutants for construction) Less than significant (operation and decommissioning)

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		accordance with California Division of Occupational Safety and Health's Respiratory Protection standard (8 CCR 5144). **MM 4.3-7:** Prior to the issuance of grading permits, a one-time fee shall be paid to the Kern County Public Health Services Department in the amount of $3,200 for Valley Fever public awareness programs. **MM 4.3-8:** At the time of project implementation, a COVID-19 Health and Safety Plan should be prepared in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates. A copy of the COVID-19 Health and Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department for review and approval.	
Impact 4.3-3: The project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people)	Potentially significant	Implementation of **Mitigation Measures MM 4.3-2** and **MM 4.3-4** is required.	Less than significant
Impact 4.3-4: Cumulative Impacts	Potentially significant	Implementation of **Mitigation Measures MM 4.3-1** through **MM 4.3-8**, and **MM 4.15-1** is required.	Significant and unavoidable (construction) Less than significant (operation and decommissioning)
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 special-status species in	Potentially significant	Implement **Mitigation Measures MM 4.1-1, MM 4.1-3, MM 4.1-6**, **MM 4.3-2, MM 4.3-3, MM 4.9-2, MM 4.13-1, MM 4.14-1**, and the following: **MM 4.4-1:** Prior to the issuance of grading or building permits, and prior to decommissioning, the project operator shall retain a Lead Biologist(s) who meets the qualifications of an Authorized Biologist as defined by the USFWS, to oversee compliance with protection measures for all listed and other special-status species that may be affected by the construction, operation, and decommissioning of the project. The contact information	Significant and unavoidable (for Western Joshua tree) Less than significant (for all other affected species)

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.		for the Lead Biologist shall be provided in writing to the Planning and Natural Resources Department. The following measures pertain to the Lead Biologist: a. The Lead Biologist or approved Biological Monitor shall be on the project site as required during construction and decommissioning of the project, and shall monitor all initial ground-disturbance activities and remain on-call throughout construction/decommissioning. Initial ground-disturbing construction activities include, but are not limited to, installation of perimeter fencing, clearing of vegetation, grading, site buildout, and decommissioning. b. The project operator shall retain a Lead Biologist to oversee compliance with protection measures during operations. c. The Lead Biologist or approved Biological Monitor shall have the right to halt all activities that are in violation of the special-status species protection measures, as well as any regulatory permits from the USFWS and/or CDFW, if applicable. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. **MM 4.4-2:** Prior to the issuance of grading or building permits, or decommissioning of the site, the Lead Biologist shall develop a Worker Environmental Awareness Training Program containing life history and identification information of special-status wildlife and plant species with potential to occur on site, best management practices for natural resource protection, laws, project rules and guidance for resource protection, and instruction for identifying and responding to applicable project requirements. The Worker Environmental Awareness Training Program shall review responsibilities for all on-site personnel, including trash control, checking under and around vehicles and heavy equipment before starting, scanning for wildlife resources, contacting the Lead Biologist in the unanticipated instance of encountering special status wildlife species, and prohibition of pets and firearms. All on-site personnel shall be required to attend a worker environmental training. A sticker shall be placed on hard hats, indicating that the worker has completed the Worker Environmental Awareness Training. Copies of all prepared materials including, but not limited to, PowerPoint presentations, videos, information handouts and signed acknowledgement from each worker who has attended the required training shall be provided to the Kern County Planning and Natural Resources Department. **MM 4.4-3:** During project construction and decommissioning, the project proponent and/or contractor(s) shall implement the following general avoidance and protective measures:	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		a. Immediately prior to conducting vegetation clearing or similar activities, the Lead Biologist or their designee shall perform a pre-construction visual survey of the area to ensure that no special-status species are present. Daily reports of these inspections shall be retained by the Lead Biologist and provided to the Kern County Planning and Natural Resources Department, and as required by resource agency permits issued to the project. b. All proposed temporary impact areas, including battery energy storage areas, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with temporary perimeter fencing prior to construction to avoid natural resources where feasible. Construction-related activities outside of the designated impact area shall be prohibited. Temporary fencing shall be designed and installed during construction activities to avoid wildlife entanglement and maintain wildlife permeability by incorporating features, such as a one-foot offset between overlapping fence segments or a 4- to 7-inch gap between the bottom of the fence and the ground surface, or another Lead Biologist-approved design that provides equivalent wildlife permeability. The temporary fencing design and installation shall be subject to approval by the Lead Biologist. All temporary fencing shall be removed upon completion of the project construction. c. Access roads that are planned for use during construction activities shall not extend beyond the planned impact area; this area includes all previously disturbed lands and any location within the project fenceline not delineated for avoidance of sensitive biological resources. Where new access routes are required, the route shall be clearly marked prior to construction. d. The project proponent/operator shall minimize the areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be demarcated, and disturbance activities, vehicles, and equipment shall be confined to these areas. e. Any spoils shall be stockpiled in disturbed areas that lack native vegetation to the maximum extent practicable. Spoils that have been stockpiled and inactive for more than 24 hours shall be inspected by the Lead Biologist for signs of special-status wildlife before moving or disturbing. f. To prevent inadvertent entrapment of desert kit foxes, American badgers, or other animals during construction, all excavated steep-walled holes or trenches more than two (2) feet deep shall be covered with plywood or similar materials at the close of each working day. If holes or trenches cannot be covered, one or more	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		escape ramps constructed of earthen fill or wooden planks, no less than 12 inches wide and secured at the top, shall be placed a minimum of every 100 feet within the open trench. Covered and non-covered holes or trenches shall be thoroughly inspected for trapped animals by the Lead Biologist at the beginning and end of each working day. Immediately before such holes or trenches are filled, they shall again be thoroughly inspected by the Lead Biologist or trained Staff approved by the Lead Biologist. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape, or the Lead Biologist may capture and relocate the animal (for non-listed species). If a listed species is found trapped, all work in the vicinity 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. The animal shall be allowed to leave the work area and project site on its own, and work shall not resume in the vicinity until the animal is out of harm's way. If the listed animal is injured, then the Lead Biologist or approved Biological Monitor shall immediately contact the USFWS and/or CDFW 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.	
		g. Burrowing owls, mammals, and nesting birds may use construction pipes, culverts, or similar structures for refuge or nesting. All towers that are of the monopole variety and all hollow vertical structures shall be capped immediately after installation to prevent bird entrapment. Therefore, all construction pipes, culverts, or similar structures with a diameter of four (4) 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 or approved Biological Monitor. 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.	
		h. No vehicle or equipment parked on the project site shall be moved prior to	

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		inspecting the ground beneath the vehicle or equipment for the presence of listed wildlife species. If present, the animal shall be left to move on its own. i. Vehicular traffic to and from the project site shall use existing routes of travel. Cross-country vehicle and equipment use outside designated work areas shall be prohibited. j. A speed limit of 15 miles per hour shall be enforced within the limits of the proposed project site. If night work occurs on the project site, the speed limit shall be 10 miles per hour. This requirement shall be posted with signage noted throughout the site. k. Fueling of equipment shall take place within existing roads or disturbed areas. No refueling within or adjacent to drainages (within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary. l. 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 to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs. m. Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife. n. Intentional and unpermitted killing or collection of any listed plant or wildlife species shall be prohibited. o. Herbicides that may be used as vegetation control measures in project areas shall be restricted. All uses of such herbicidal compounds shall observe label and other restrictions mandated by the U.S Protection Agency, California Department of Food and Agriculture, and state/federal legislation as well as additional project related restrictions deemed necessary by the USFWS or CDFW. No rodenticides shall be used on the project site. p. All construction lighting shall be directed downward and focused solely on active work areas within the project site. Lighting shall not be oriented upward, toward the sky, horizontally beyond the work area, or toward adjacent undeveloped habitat. All lighting shall be shielded as necessary to minimize light spill outside the construction footprint. **MM 4.4-4:** During construction, operation and maintenance, and decommissioning, project work crews shall be directed to use industry accepted and standard construction best	

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		management practices (BMPs) consistent with the County zoning ordinances and with guidelines provided in the California Stormwater Quality Association's Construction Best Management Practice Handbook, where applicable, to avoid, minimize, and/or reduce potential construction-related impacts on biological resources. BMPs shall be monitored and repaired throughout the life of the project. The project proponent/operator and/or contractor(s) shall implement the general measures described below: a. BMPs shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan. Detected erosion shall be remedied as described in the *Erosion Control Plan* of the Stormwater Pollution Prevention Plan. b. Material/spoils generated from project activities shall be located away from jurisdictional areas and environmentally sensitive areas that are not slated for impacts. c. Jurisdictional areas and environmentally sensitive areas shall be 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. d. 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 of any jurisdictional areas and environmentally sensitive areas. e. Drip pans shall be placed under stationary equipment and vehicles when not in use to provide secondary containment for potential leaks and drips. f. Any spillage of material shall be stopped if it can be done safely. The contaminated area shall be cleaned, and any contaminated materials properly disposed of. For all spills, the project foreman or designated environmental representative shall be notified. **MM 4.4-5:** Within 14 days prior to the commencement of ground-disturbing activities, the Lead Biologist or their designee shall perform a pre-construction visual survey of the area to determine if rare plants and/or California Desert Native Plant Act species are present. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur no more than 14 days prior to ground disturbance in specific areas of the site. Copies of reports for these inspections shall be retained by the Lead Biologist and provided to the Kern County Planning and Natural Resources Department to be kept on file and to CDFW upon request.	

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		If no species with a California Native Plant Society Rank of 2B or higher are observed, no further mitigation is required. If species with a California Native Plant Society Rank of 2B or higher are observed and have not otherwise been accounted for in an approved removal action, they shall be delineated with stakes and/or flagged for avoidance to the extent feasible. After the preconstruction survey determines the exact location of these species, if present, on the project site and the number of individuals or populations present, the project proponent/operator shall submit written documentation to the Kern County Planning and Natural Resources Department confirming implementation of the measures described below: a. The project proponent/operator shall work with the Lead Biologist to determine the presence of the subject plant species and identify all known locations of subject plant species to establish "avoidance areas". All species with a California Native Plant Society Rank of 2B or higher found within the project site that have not otherwise been accounted for in an approved removal action shall be avoided by a buffer of 25 feet. Sturdy, highly visible, orange plastic construction fencing (or equivalent material verified by the Lead Biologist) shall be installed around all locations of detected plant species to protect from impacts during the construction phase, until they can be relocated. The fence shall be securely staked and installed in a durable manner that would be reasonably expected to withstand wind and weather events and last at least through the construction period. Fencing will also be installed in such a way as to avoid wildlife entanglement (i.e., installed with a gap between the bottom of the fence and ground level) and promote wildlife permeability. Fencing shall be removed upon completion of the project construction. b. Any identified species with a California Native Plant Society Rank of 2B or higher present on the site that have not otherwise been accounted for in an approved removal action and that cannot be feasibly avoided in final project design shall require the project proponent to prepare and submit a transplantation plan that includes the following: 1. Identify an area of occupied habitat to be preserved and removed; 2. Identify areas of on-site or off-site preservation, restoration, or enhancement locations; 3. Methods for preservation, restoration, enhancement, and/or translocation;	

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		4. Indicate a replacement ratio and success standard developed in coordination with the appropriate agencies for impacted individuals; 5. Establish a monitoring program to ensure mitigation success; 6. Create adaptive management and remedial measures in the event that performance standards are not achieved; 7. Ensure financial assurances and a mechanism for conservation of any mitigation lands required in perpetuity. **MM 4.4-6:** Prior to the issuance of grading permits, if any silver cholla individuals would be affected by the proposed ground disturbance, the project applicant shall provide proof of fee payment for the removal of silver cholla in accordance with the California Desert Native Plant Act to the Kern County Planning and Natural Resources Department. **MM 4.4-7:** Prior to the issuance of grading permits, the project applicant shall consult with CDFW regarding the number of western Joshua trees (WJT) that the project would avoid, relocate, or impact. The project shall obtain an Incidental Take Permit (ITP) for any impacted WJT and shall comply with all avoidance, minimization, and compensatory mitigation measures, as set forth in the ITP issued to the project by CDFW. The project shall avoid western Joshua tree (WJT) individuals, except to the extent that take is permitted by CDFW. Documentation of any such CDFW take authorization and mitigation shall be provided to the Kern County Planning and Natural Resources Department. Prior to the issuance of a grading permit, the project proponent/operator shall develop a Joshua Tree Preservation Plan or other similar plan as required by any incidental take permit issued to the project by CDFW. The Plan shall be prepared by the Lead Biologist or their designee pre-approved by Kern County and shall be approved by the appropriate agencies, including Kern County, prior to implementation. At a minimum, the Plan shall identify the methods utilized, as applicable, that the project is taking to comply with any CESA or CDFW take requirements, trees to be relocated, relocation procedures, receiving locations, and compensatory mitigation related to the protection or mitigation of impacted Joshua trees. **MM 4.4-8:** Within a maximum of 30 days of the start of ground disturbance for construction or decommissioning activities, a Lead Biologist knowledgeable in the identification of special-status wildlife species with potential to occur on the project site shall conduct pre-construction surveys for special-status wildlife species not otherwise covered by project-specific mitigation measures, including but not limited to, northern California legless lizard, coast horned lizard, and Tehachapi slender salamander. The survey	

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		area shall cover the project site, plus a minimum of 500 feet, where legally accessible. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur no more than 30 days prior to ground disturbance in specific areas of the site. **MM 4.4-9:** If construction and decommissioning activities are conducted during the typical nesting bird season (February 1 through August 31), a Lead Biologist or their designee shall conduct a pre-construction or pre-decommissioning nesting survey within 14 days of ground disturbance activities to avoid or minimize potential impacts to avian species. Surveys need not be conducted for the entire project site at one time; they may be phased so that surveys occur within 14 days prior to disturbance in specific areas of the site. The survey area shall cover the project site, plus a minimum 500-foot buffer, where legally accessible. a. If nesting birds/raptors are observed, a Lead Biologist or approved Biological Monitor shall establish an appropriate buffer distance around the nest site (typically 100 feet for passerines and up to 500 feet for raptors). The buffer shall remain in place until the Lead Biologist or approved Biological Monitor has determined that the nest is no longer active. Encroachment into the buffer or buffer adjustments may occur at the discretion of the Lead Biologist in consultation with the Kern County Planning and Natural Resources Department. b. If construction is scheduled to occur during the non-nesting season (September 1 to January 31), no pre-construction surveys or additional measures are required for nesting birds, including raptors. **MM 4.4-10:** No more than 14 days before commencement of ground-disturbing activities associated with project construction and decommissioning, a Lead Biologist or their designee shall conduct a pre-construction survey for all suitable western burrowing owl habitat proposed for disturbance within the project site, plus a 500-foot buffer, where legally accessible, to determine if occupied known and/or occupied nesting western burrowing owl burrows are present. Survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Game Staff Report on Burrowing Owl Mitigation and shall consist of walking parallel transects 7 to 20 meters (23 to 66 feet) apart, adjusting for vegetation height and density as needed, and noting burrows with fresh burrowing owl sign or presence of burrowing owl. Burrowing owl burrows shall be evaluated and classified per the definitions below: a. Potential Burrow: Any subterranean hole four inches or larger for which no current evidence is present to conclude that the burrow is being used by a burrowing owl.	

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		b. Occupied Known Burrow: A burrow that shows sign of burrowing owl presence (whitewash, feathers, pellets, prey remains, eggshell fragments) and presence of at least one burrowing owl. If monitoring confirms that burrowing owl are no longer using a burrow, it will be redesignated as potential. c. Occupied Nesting Burrow: A burrow where monitoring overseen by the Lead Biologist or approved Biological Monitor demonstrates the presence of burrowing owl eggs, chicks, dependent young, and/or brooding or egg incubation (via inter-burrow scope). Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur prior to disturbance in specific areas of the site. The western burrowing owl surveys may be conducted in conjunction with other required preconstruction surveys, if timing is appropriate. If construction activities cease for 30 or more days, additional pre-construction take avoidance surveys shall be conducted no less than 24 hours prior to ground disturbance to search for burrowing owls (and sign) that may have colonized the site during periods of inactivity. Copies of the survey results shall be submitted to the Kern County Planning and Natural Resources Department. a. If potential burrowing owl burrows are detected any time of year, burrows may be excavated under the direct supervision of the Lead Biologist without prior camera monitoring. b. If occupied known and/or occupied nesting burrowing owl burrows are detected, a no-disturbance buffer shall be established around the burrow and no ground-disturbing activities may occur within the buffer zone. c. An established burrowing owl burrow no-disturbance buffer may be removed once the burrowing owl(s) is/are no longer using the burrow (redesignated as a potential burrow). The size of employed no-disturbance buffers may be up to 500 meters (1,640 feet) from an occupied known and/or occupied nesting burrowing owl burrow year-round. Buffer size is dependent upon time of year and level of construction activity disturbance. Depending on the level of disturbance, a smaller buffer may be established by the Lead Biologist based on the visibility and sensitivity responses of each burrowing owl. Buffers shall be maintained for the duration the burrowing owl burrow remains occupied as determined by the Lead Biologist. If, at the commencement of project construction, western burrowing owl is present within the survey area and is either still a candidate species, or has been listed as threatened, or	

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		endangered under CESA, and take is unavoidable as determined by the Lead Biologist, the project proponent shall obtain an incidental take permit from CDFW for the species and comply with all avoidance, minimization, and compensatory mitigation requirements provided in any Incidental Take Permit (ITP) issued by CDFW for the project. **MM 4.4-11:** If potential American badger or desert kit fox dens are found during pre-construction surveys, the status of the dens shall be evaluated by the Lead Biologist or their designee no more than 30 days prior to project ground disturbance. a. If the Lead Biologist(s) determines that the den(s) are inactive, den(s) shall be collapsed by the Lead Biologist(s) to prevent occupation of the den(s) between the time of the pre-construction survey and construction activities. b. If the Lead Biologist(s) determines that the den(s) are active, construction activities shall not occur within 50 feet of an active badger den or 100 feet of an active kit fox den, unless otherwise approved by the Lead Biologist(s). c. If the Lead Biologist(s) determines that potential den(s) outside of the pupping season may be active, a passive relocation program can occur. The pupping season is defined as March 15–July 31 for American badger and February 1–August 31 for desert kit fox. The program shall consist of determining status of the den(s) (confirming it is a nonmaternity den through remote camera monitoring), excluding American badger or desert kit fox from the occupied nonmaternity den(s) by installation of one-way doors at burrow entrances, monitoring of the den for a minimum of 48 hours to confirm usage has been discontinued, and excavation and collapse of the den. **MM 4.4-12:** If construction activities are scheduled to be initiated during the Swainson's hawk nesting season (March 1 through September 15), a Lead Biologist or their designee shall conduct a preconstruction survey of all accessible areas within 0.5 mile of the planned disturbance area to determine the presence and activity of known or new Swainson's hawk nests. Inaccessible areas shall be surveyed by binocular or spotting scope. The preconstruction survey shall occur within 30 days prior to the start of construction. If construction is scheduled to commence outside of the Swainson's hawk nesting season (September 16 to February 28), no preconstruction surveys are required. The preconstruction nest survey shall follow the protocols set out in the California Energy Commission (CEC) and California Department of Fish and Wildlife Guidance (CDFW) (2010). To the extent feasible, the project applicant shall design the project site to allow sufficient	

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		foraging and fledging area to maintain known, active Swainson's hawk nests located within 0.5 miles of the project site, if present. If preconstruction surveys detect a new nesting Swainson's hawk within 0.5 miles of the project site, a 0.5-mile avoidance buffer shall be established around the nest by a Lead Biologist or approved Biological Monitor and no new ground disturbances, habitat conversions, or other project-related activities that may cause nest abandonment or forced fledging within the buffer shall be allowed until the Lead Biologist has determined the nest is no longer active. Encroachment into the buffer may occur at the discretion of a Lead Biologist in consultation with CDFW. Buffer zones may be adjusted by the Lead Biologist in consultation with CDFW and with the County. If avoidance of an active nest is not feasible, the project proponent/operator shall consult with CDFW regarding the potential for project activities to result in take of the Swainson's hawk. If take cannot be avoided, take authorization through the acquisition of an Incidental Take Permit (ITP) shall be required. The project proponent/operator shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth in the ITP issued by CDFW. Documentation of any such CDFW take authorization and mitigation shall be provided to the Kern County Planning and Natural Resources Department. If active Swainson's hawk nests are found within a 5-mile radius of the project site during preconstruction surveys, the project proponent/operator shall mitigate the loss of any moderate quality Swainson's hawk foraging habitat for any portion of the project site within 5 miles of an active nest at a ratio of up to 0.5:1. If one or more active Swainson's hawk nests are identified within 5 miles of the project site, a Lead Biologist shall evaluate the vegetation communities within the project disturbance footprint and determine whether they constitute moderate quality Swainson's hawk foraging habitat. Mitigation lands may be nested with other compensatory lands provided it meets the necessary biological requirements. The project proponent may consider mitigating for impacts on suitable Swainson's hawk foraging habitat through the purchase of credits from a CDFW-approved conservation bank, such as Butte Valley, or another approved mitigation program. Credits shall provide habitat of equal or better value, as approved by Kern County Planning and Natural Resources Department. Avoided habitat would not count toward impacts in determining compensatory mitigation requirements and may be used to satisfy mitigation requirements if protected by a deed restriction or other conservation mechanism or strategy. **MM 4.4-13:** Within 14 days prior to the commencement of any ground-disturbing activities, a Lead Biologist or their designee shall conduct a pre-construction survey in areas with suitable desert tortoise habitat proposed for disturbance within the project site plus a	

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		minimum 500 feet buffer, where legally accessible, to determine if desert tortoises are present. The desert tortoise preconstruction survey shall be conducted in accordance with the U.S. Fish and Wildlife Service (USFWS) clearance survey protocols described in the Desert Tortoise Field Manual, including a minimum of two clearance passes, which shall coincide with heightened desert tortoise activity from late March through May and September through October or as determined adequate for the project per coordination with applicable regulatory agencies. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur prior to disturbance in specific areas of the site. The desert tortoise surveys may be conducted in conjunction with other required preconstruction surveys, if timing is appropriate. Copies of the survey results shall be submitted to the Kern County Planning and Natural Resources Department. a. If no Class 1 desert tortoise burrows or tortoises are discovered during preconstruction surveys, no further mitigation for desert tortoise is necessary. b. If Class 1 burrows or tortoises are identified and avoidance of desert tortoise is not feasible, the project proponent/operator shall consult with USFWS and California Department of Fish and Wildlife (CDFW) regarding the potential for project activities to result in take of the desert tortoise and shall comply with all avoidance (including prescribed preconstruction surveys), minimization, and compensatory mitigation requirements set forth in any issued permit for the project. USFWS and CDFW take authorization requirements shall supersede County requirements. Documentation of any such take authorization and mitigation shall be provided to the Kern County Planning and Natural Resources Department. **MM 4.4-14:** A Raven Management Plan shall be developed for the project site in accordance with U.S. Fish and Wildlife Service (USFWS) guidelines and shall implement management measures for ravens in the project area. This plan shall include at a minimum: 1. Structure designs that eliminate perches, waste management, roadkill management, management of ponded water during construction and operations, and nest removal on structures within the project site. 2. Identification of all common raven nests within the project area during construction. 3. 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 USFWS, California	

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		Department of Fish and Wildlife, and the Kern County Planning and Natural Resources Department within five calendar days; and 4. 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 4.4-15:** Wherever possible, vegetation removal shall be minimized within the project site. Native vegetation shall remain undisturbed unless removal is necessary for placement of project components to allow for continued use by potential raptor prey species (i.e., small mammals, reptiles, and amphibians). a. Native vegetation adjacent to the project site shall remain in place as permitted by the Kern County Fire Code. b. 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 and/or allowed to re-vegetate with the existing native seed bank in the topsoil where possible to establish revegetation. c. Vegetation/ground cover shall be continuously maintained on the site by the project proponent/operator. **MM 4.4-16:** The project proponent/operator shall install power lines in conformance with Avian Power Line Interaction Committee (APLIC) standards for electrocution-reducing techniques as outlined in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC, 2006), and the collision-reducing techniques outlined in *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012), or any superseding document issued by APLIC. **MM 4.4-17**: Preconstruction surveys for Crotch's bumble bee shall be conducted prior to initial ground-disturbing activities. The survey area shall consist of suitable habitat areas within the project site and 50-foot buffer (access permitting). Surveys and timing would be consistent with the survey methodologies set out in the CDFW *Survey Considerations for CESA Candidate Bumble Bee* (CDFW, 2023) or as determined adequate for the project per coordination with CDFW. The purpose of this survey will be to identify active Crotch's bumble bee nest colonies. a. If active Crotch's bumble bee nests are discovered on-site, the Lead Biologist or approved Biological Monitor shall establish a 50-foot no disturbance buffer around the nest to reduce the risk of disturbance or accidental take.	

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		b. If establishment of a no disturbance buffer is feasible, construction activities shall not occur within the no disturbance buffer until a Lead Biologist determines that the colony is no longer active (i.e., no Crotch's bumble bees are seen flying in or out of the nest for three consecutive days indicating the colony has completed its nesting season and the next season's queens have dispersed from the colony). Once the nest has been determined inactive, construction activities within the no disturbance buffer(s) shall be allowed to resume. c. If Crotch's bumble bee is either still a candidate species, or has been listed as threatened, or endangered under CESA, and take is unavoidable as determined by the Lead Biologist, the project proponent/operator shall obtain an ITP for the species and comply with all avoidance, minimization, and compensatory mitigation requirements set forth in any ITP issued for the project by CDFW authorizing take of the species. Documentation of any such CDFW take authorization and mitigation shall be provided to the Kern County Planning and Natural Resources Department. **MM 4.4-18:** A Weed Control Plan shall be prepared to address the control of invasive weeds and plants. The Weed Control Plan shall be prepared to the satisfaction of the Kern County Planning and Natural Resources Department and in place before construction activities commence. The Plan shall include, but not be limited to, the following: 1. A risk assessment of the invasive weed and plant species currently known within the project site, procedures to control their spread on-site and to adjacent off-site areas, and procedures to minimize the introductions of new weed and plant species. 2. Preventive measures that would minimize the potential establishment of invasive weed and plant species during project implementation, including the operation and maintenance and decommissioning phases. Measures to minimize the spread and establishment could include: a. Clearing and grubbing of all weed species as one of the first actions associated with the construction phase. b. Cleaning tires, tracks, undercarriages, and other surfaces of all trucks and construction equipment with water or high-pressure air before entering or leaving work areas where invasive species may be present. c. Installing rock pads, grates, or other appropriate features at site entry points to physically dislodge weed seeds.	

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		d. Using certified weed-free mulch, erosion-control materials, and revegetation materials when stabilizing areas of disturbed soils. e. Using on-site soils for fill to the maximum extent practicable. 3. Establish monitoring requirements to evaluate the effectiveness of weed-control measures and ensure invasive species are adequately managed throughout the life of the project. Corrective actions shall be implemented, as determined in coordination with the Kern County Planning and Natural Resources Department or other agencies, as applicable, if monitoring identifies ineffective control measures.	
Impact 4.4-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	No impact	No mitigation measures are required.	No impact
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.	Potentially significant	Implement **Mitigation Measures MM 4.4-4, MM 4.9-1**, **MM 4.10-1**, **MM 4.10-2**, and the following: **MM 4.4-19:** Prior to issuance of any grading or building permit, the project proponent/operator shall submit a final Jurisdictional Delineation report to the Kern County Planning and Natural Resources Department. The report shall include information as shown below as a plan, if necessary, and shall outline compliance with the following: a. Delineation of all jurisdictional features at the project site. Potential jurisdictional features (ephemeral drainages) within the project boundary identified in the jurisdictional delineation report that are not anticipated to be directly impacted by project-related activities shall be avoided. This may be shown in plan form.	Less than significant

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		b. Any material/spoils generated from project activities shall be located away from jurisdictional areas or special-status habitat and protected from stormwater 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. c. Fueling of equipment shall take place within existing roads or disturbed areas. No refueling within or adjacent to drainages (within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary. d. No vehicle or equipment parking shall be located within jurisdictional features. If parking must occur within jurisdictional waters, secondary containment (e.g., drip pans) shall be used, even if for short periods of time. e. Any spillage of material shall be stopped if it can be done safely. The contaminated area shall be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative shall be notified. **MM 4.4-20:** If Regional Water Quality Control Board (RWQCB) and/or California Department of Fish and Wildlife (CDFW) jurisdictional resources cannot be avoided, the project proponent/operator shall be subject to provisions as identified below: a. Prior to ground disturbance activities that could impact RWQCB and/or CDFW jurisdictional resources, the project proponent/operator shall consult with the RWQCB to obtain Waste Discharge Requirements and/or CDFW to obtain a Lake and Streambed Alteration Agreement. Permits shall be obtained prior to disturbance of jurisdictional resources. b. Compensatory mitigation for impacts to unvegetated streambeds/washes shall be identified prior to disturbance of the features and implemented at a 1:1 ratio, or as otherwise approved by the RWQCB or CDFW either through on-site or off-site mitigation, or purchasing credits from a mitigation bank, such as the Butte Valley Conservation Bank, West Harper Conservation Bank, or WildWest Mojave Desert Conservation Bank, or another mitigation bank approved by the RWQCB or CDFW. Final mitigation ratios and mitigation types will be determined through consultation with the RWQCB and CDFW.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		c. The project proponent/operator shall comply with all avoidance, minimization, and compensatory mitigation measures, as set forth in permits issued to the project by RWQCB and/or CDFW. Copies of coordination, proof of compliance, documentation of any mitigation, along with copies of permits obtained from the RWQCB and/or CDFW shall be provided to the Kern County Planning and Natural Resources Department.	
Impact 4.4-4: The project would interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Potentially significant	Implementation of **Mitigation Measures MM 4.1-3**, **MM 4.1-6**, **MM 4.3-2, MM 4.3-3**, **MM 4.13-1**, and **MM 4.4-15** is required.	Less than significant
Impact 4.4-5: The proposed 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 4.4-20** 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,	No impact	No mitigation measures are required.	No impact

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
regional, or state habitat conservation plan.			
Impact 4.4: Cumulative Impacts	Potentially significant	Implementation of **Mitigation Measures MM 4.1-1**, **MM 4.1-3**, **MM 4.1-6**, **MM 4.3-3**, **MM 4.4-1** through **MM 4.4-20**, **MM 4.9-2**, **MM 4.10-1**, **MM 4.10-2**, **MM 4.13-1**, and **MM 4.14-1** is required.	Significant and unavoidable
4.5 Cultural Resources			
Impact 4.5-1: The project would cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.5.	Potentially significant	**MM 4.5-1:** The project proponent/operator shall retain a Lead Archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (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 Native American monitor(s), shall prepare Cultural Resources Sensitivity Training materials, including a Cultural Resources Sensitivity Training Guide, to be used in an orientation program given to all personnel working on the project. The Lead Archaeologist shall conduct the training, and Tribal representatives from the Consulting Tribes, including Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians), will be allowed to attend and/or participate in the training, should they elect to, and will be given ten days' notice prior to the training. A copy of the proposed training materials shall be provided to the Planning and Natural Resources Department prior to the issuance of grading or building permits. b. The project proponent/operator shall ensure all new employees or on-site workers who have not participated in earlier Cultural Resources Sensitivity Trainings shall meet the provisions specified above. c. The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the Lead Archaeologist and/or Native American monitor(s) for further evaluation and action, as appropriate; and	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. d. A copy of the Cultural Resources Sensitivity Training Guide/Materials shall be kept on-site and available for all personnel to review and be familiar with, as necessary. It is the responsibility of the Lead Archaeologist to ensure all employees receive appropriate training before they work on-site. e. The services of Native American Monitors, as identified through consultation with appropriate Native American tribes, working under the supervision of the Lead Archaeologist, shall be retained to monitor initial excavation or ground-disturbing activities as identified in **Mitigation Measure MM 4.5-2** below. f. The services of archaeological monitors, working under the supervision of the Lead Archaeologist, shall be retained by the project to monitor initial project-related construction activities as identified in **Mitigation Measures MM 4.5-2** through **MM 4.5-5**. **MM 4.5-2:** Prior to the issuance of grading or building permits, the project proponent shall submit to the Kern County Planning and Natural Resources Department a Cultural Resources Monitoring and Treatment Plan for approval. The Kern County Planning and Natural Resources Department shall disseminate the Plan to the Consulting Tribes, including Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians). The Plan shall: a. Require that prior to conducting initial ground disturbance in the vicinity of a prehistoric archaeological site that requires avoidance, an "exclusion area" (i.e., the recorded boundary of the archaeological site that requires avoidance and the area within 60 feet thereof, as recommended by YSMN, shall be temporarily marked with exclusion markers or protective fencing as determined by the Lead Archaeologist in consultation with the Native American Monitor. b. Require that the construction zone be narrowed or otherwise altered to avoid any exclusion areas. c. Previously evaluated archaeological sites and isolates that have been determined not eligible under CEQA for the California Register of Historical Resources will not be included in the exclusion areas. d. The requirements for archaeological monitoring would be noted in the Cultural Resources Treatment Plan. In consultation with the Native American monitor, the archaeologist's duties would include monitoring, evaluation of any finds, analysis	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		of collected materials, and preparation of a monitoring results report conforming to CEQA guidelines. e. Provide an overview of best management practices to be utilized during ground-disturbing construction activities to ensure protection of cultural resources. f. Outline the process for evaluation of any unanticipated cultural discoveries during project construction activities. g. Provide a Data Recovery Plan, if required, prepared by the Lead Archeologist in consultation with the Native American Monitor(s), for the recovery of known and unanticipated cultural discoveries that cannot be avoided or preserved in place. **MM 4.5-3:** In the event that previously unknown archaeological materials are encountered during the course of grading or construction, the project contractor shall cease ground-disturbing activities within 60 feet of the find, as recommended by Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians). The area of the discovery shall be marked off by temporary fencing that encloses a 60-foot radius from the location of the discovery. Signs shall be posted that establish it as an "Exclusion Area," and all entrances into the area shall be avoided until the discovery is assessed by the Lead Archaeologist and Native American Monitor. The Lead Archaeologist, in consultation with 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 Exclusion Area shall remain in place until the treatment is completed. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources. Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the Lead Archaeologist, in consultation with any Native American Monitor, shall develop additional treatment measures in consultation with Kern County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Diagnostic archaeological materials with research potential recovered during an 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 SSJVIC at California State University, Bakersfield.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		MM 4.5-4: The services of both an Archaeological and Native American Monitor, working under the supervision of the Lead Archaeologist as identified through consultation with appropriate Native American tribes, shall be retained by the project proponent to monitor ground-disturbing activities associated with project construction, as follows: • During project construction, Archaeological and Native American monitoring shall be conducted for all initial excavation and ground-disturbing activities. If no archaeological discoveries are made during the course of this monitoring, no additional monitoring will be required. If the Lead Archaeologist can demonstrate that the level of monitoring should be reduced or discontinued, or a need for continuing monitoring, the Lead Archaeologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of monitoring to circumstances as warranted. • All ground disturbing activities within 100 feet of a grave site shall be monitored by Archaeological and Native American Monitor(s). • The Lead Archaeologist and Native American Monitor(s) shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. Should the services of any additional individuals be retained (as the Lead Archaeologist, Archaeological Monitor, or Native American Monitor) subsequent to commencement of ground disturbing activities, such individuals shall be provided all proposed project documentation related to cultural resources within the project site, prior to beginning work. Documentation shall include but not be limited to previous cultural studies, surveys, maps, drawings, etc. Any modifications or updates to project documentation, including construction plans and schedules, shall immediately be provided to the Lead Archaeologist, Archaeological Monitor, and Native American Monitor. • 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 and Native American Monitor. After monitoring has been completed, the Lead Archaeologist shall prepare a monitoring report that details monitoring results; assessment of inadvertent discoveries; communication with Tribal representatives; installation of, maintenance of, and guidance for environmentally sensitive areas; and general implementation of the required mitigation. The final monitoring report shall act as a record of compliance with guiding documents and mitigation, and shall be submitted to the Kern County	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Planning and Natural Resources Department and the Southern San Joaquin Valley Information Center at California State University, Bakersfield.	
Impact 4.5-2: The project would cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5	Potentially significant	Implementation of **Mitigation Measures MM 4.5-1** through **MM 4.5-4** is required.	Less than significant
Impact 4.5-3: The project would 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 feet of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 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, and in accordance with generally accepted cultural or archeological standards or practices, the project proponent shall ensure that the immediate vicinity of the Native American human remains is not damaged or disturbed by further development activity until the project proponent 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	Less than significant	No mitigation measures are required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.			
Impact 4.6-2: The project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	No impact	No mitigation measures are required.	No impact
Impact 4.6: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
4.7 Geology and Soils			
Impact 4.7-1: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.7-2: The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, seismic-related ground failure, including liquefaction; or landslides.	Less than significant	Though the impact is less than significant, implementation of **Mitigation Measures MM 4.7-1** and **MM 4.7-2** would further reduce impacts. **MM 4.7-1:** Prior to the issuance of grading or building permits, the project proponent shall conduct a final engineering design-specific geotechnical study in accordance with applicable ordinances of the Kern County Building Code (Chapter 17.08) and the CBC to evaluate soil conditions and geologic hazards on the project site and submit it to the Kern County Public Works Department for review and approval. The project proponent shall determine the final siting of project facilities based on the results of the site-specific final geotechnical study and implement recommended measures to minimize geologic hazards. The project proponent shall not locate project facilities on or immediately adjacent to an active fault trace. **MM 4.7-2:** Prior to the issuance of grading permits, the project proponent shall retain a California-registered and licensed geotechnical engineer to design project facilities to withstand probable seismically induced ground shaking at the site. All grading and construction on-site shall adhere to the specifications, procedures, and site conditions contained in the final design plans, which shall be fully compliant with the seismic recommendations of the California-registered professional engineer. The Kern County Public Works Department shall evaluate any final facility siting design developed prior to the issuance of any grading or building permits to verify that geological constraints have been avoided. Additionally, structures supported on a shallow foundation system should bear on engineered fill extending to a depth determined by a California-registered and licensed geotechnical engineer, based on site-specific conditions.	Less than significant
Impact 4.7-3: The project would result in substantial soil erosion or the loss of topsoil.	Potentially significant	Implementation of **Mitigation Measures MM 4.7-1** and **MM 4.7-2**, and **MM 4.10-1** is required.	Less than significant
Impact 4.7-4: 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,	Potentially significant	Implementation of **Mitigation Measures MM 4.7-1** and **MM 4.7-2** is required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
subsidence, liquefaction, or collapse.			
Impact 4.7-5: The project would be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (19914), creating substantial risks to life or property.	Potentially significant	Implementation of **Mitigation Measures MM 4.7-1** and **MM 4.7-2** is required.	Less than significant
Impact 4.7-6: The project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.	Potentially Significant	**MM 4.7-3:** Prior to the issuance of grading or building permits for the operation and maintenance facility, the project operator shall obtain all required permits and approvals from Kern County Environmental Health Services Division and shall implement all required conditions regarding the design and siting of the septic system.	Less than significant
Impact 4.7-7: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, as defined in CEQA Guidelines Section 15064.5	Potentially significant	**MM 4.7-4:** The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (SVP 2025), to carry out all mitigation measures related to paleontological resources. a. Prior to the start of any ground-disturbing activities, the qualified paleontologist shall prepare a Paleontological Resources Awareness Training program for all construction personnel working on the project. A Paleontological Resources Awareness Training Guide approved by a Qualified Paleontologist shall be provided to all personnel. A copy of the Paleontological Resources Awareness Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form. b. Paleontological Resources Awareness Training may be conducted in conjunction with other awareness training requirements. c. The training shall include an overview of potential paleontological resources that could be encountered during ground-disturbing activities to facilitate worker	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		recognition, avoidance, and subsequent immediate notification to the qualified paleontologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of paleontological resources. d. The project operator shall ensure all new employees who have not participated in earlier Paleontological Resources Sensitivity Training shall meet the provisions specified above. e. The Paleontological Resources Awareness Training Guides shall be kept on-site and available for all personnel to review and be familiar with as necessary. **MM 4.7-5:** Prior to construction, the Qualified Paleontologist shall review excavation plans to determine where paleontologically sensitive stratigraphic units will potentially be disturbed by ground-disturbing activities. **MM 4.7-6:** During construction, the Qualified Paleontologist or designated monitor shall monitor all ground-disturbing activities (except vibratory or hydraulic installation of tracking or mounting structures and foundations or supports) that occur at a depth of 15 feet or deeper below ground surface. Following completion of monitoring, the Qualified Paleontologist shall prepare a report documenting the absence or discovery of fossil resources on site. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, recovery and curation efforts, and the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be submitted to the Kern County Planning and Natural Resources Department to be kept on file. **MM 4.7-7:** If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 60 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.	
Impact 4.7: Cumulative Impacts	Potentially significant	Implementation of **Mitigation Measures MM 4.7-1** through **MM 4.7-7** and **MM 4.10-1** is required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.8 Greenhouse Gas Emissions			
Impact 4.8-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than significant	No mitigation 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
4.9 Hazards and Hazardous Materials			
Impact 4.9-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Potentially significant	Implement **Mitigation Measure MM 4.17-1** and the following: **MM 4.9-1:** During the life of the project, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan (HMBP), as applicable, pursuant to Article 1 and Article 2 of California Health and Safety Code 6.95 and in accordance with Kern County Ordinance Code 8.04.030, by submitting all the required information to the California Environmental Reporting System (CERS) for review and acceptance by the Kern County Environmental Health Services Division/Hazardous Materials Section. The HMBP shall: a. Delineate hazardous material and hazardous waste storage areas. b. Describe proper handling, storage, transport, and disposal techniques. c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill. d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction and operation.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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 pesticides and herbicides that may be present on the site. The project proponent shall ensure that all contractors working on the project are familiar with the facility's HMBP, as well as ensure that one copy is available at the project site at all times. In addition, a copy of the accepted HMBP from CERS shall be submitted to the Kern County Planning and Natural Resources Department for inclusion in the project's permanent record.	
Impact 4.9-2: The project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Potentially significant	Implement **Mitigation Measures MM 4.9-1, MM 4.10-1**, **MM 4.14-1**, and the following: **MM 4.9-2:** The project proponent/operator shall continuously comply with the following: a. The construction contractor or project personnel shall use herbicides that are approved for use in California and are appropriate for application adjacent to natural vegetation areas (i.e., non-agricultural use). Personnel applying herbicides shall have all appropriate State and local herbicide applicator licenses and comply with all State and local regulations regarding herbicide use. b. Herbicides shall be mixed and applied in conformance with the manufacturer's directions. c. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical-resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife. d. Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water. e. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated. f. A written record of all herbicide applications on the site, including dates and amounts, shall be furnished annually to the Kern County Planning and Natural Resources Department.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.9-3: The project would emit hazardous emissions or involves handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.	No impact	No mitigation measures are required.	No impact
Impact 4.9-4: The project would be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section § 65962.5 and, as a result, create a significant hazard to the public or the environment.	No impact	No mitigation measures are required.	No impact
Impact 4.9-5: The project would result in a safety hazard or excessive noise for people residing or working in the project area, for a project located within the vicinity of a Kern County Airport Land Use Compatibility Plan or private airstrip.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.9-6: The project would impair	Potentially significant	Implementation of **Mitigation Measure MM 4.15-1** is required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.			
Impact 4.9-7: The project would expose people or structures to a significant risk of loss, injury, or death involving wildland fires.	Potentially significant	Implementation of **Mitigation Measures MM 4.1-3** and **MM 4.14-1** is required.	Less than significant
Impact 4.9-8: The project would generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the proposed project exceed the following qualitative threshold: the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the proposed project is significant when the applicable enforcement agency determines that any of the vectors: i. Occur as immature stages and adults in	Less than significant	Though the impact is less than significant, implementation of **Mitigation Measures MM 4.1-1** and **MM 4.17-1** would further reduce impacts.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
numbers considerably in excess of those found in the surrounding environment; or ii. Are associated with design, layout, and management of proposed project operations; or iii. Disseminate widely from the property; or iv. Cause detrimental effects on the public health or well-being of the majority of the surrounding population.			
Impact 4.9: Cumulative Impacts	Potentially significant	Implementation of **Mitigation Measures MM 4.1-1**, **MM 4.1-3**, **MM 4.9-1**, **MM 4.9-2, MM 4.10-1**, **MM 4.14-1**, **MM 4.15-1**, and **MM 4.17-1** is required.	Less than significant
4.10 Hydrology and Water Quality			
Impact 4.10-1: The project would violate water quality standards or waste discharge requirements or otherwise degrade water quality.	Potentially significant	Implement **Mitigation Measures MM 4.4-4**, **MM 4.9-1**, and the following: **MM 4.10-1:** Prior to issuance of a grading permit, the project proponent/operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) for review and approval by the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department. The SWPPP shall be designed to minimize runoff and shall specify best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sediment or any other pollutants from moving offsite and into receiving waters. The requirements of the SWPPP shall be incorporated into design	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		specifications and construction contracts. Recommended best management practices to be incorporated in the SWPPP may include the following: a. Minimization of vegetation removal. b. Implementing sediment controls, including silt fences as necessary. c. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas. d. Properly containing and disposing of hazardous materials used for construction on-site. e. Properly covering stockpiled soils to prevent wind erosion. f. Proper protections and containment for fueling and maintenance of equipment and vehicles. g. Appropriate disposal of demolition debris, concrete, and soil, and aggressively controlling litter. h. Cleanup of silt and mud on adjacent streets due to construction activity. i. Checking all lined and unlined ditches after each rainfall. j. Restore all erosion control devices to working order to the satisfaction of the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department after each rainfall runoff. k. Install additional erosion control measures as may be required due to uncompleted grading operations or unforeseen circumstances that may arise. **MM 4.10-2:** Prior to the issuance of grading permits, the project proponent/operator shall complete a Final Drainage Plan designed to evaluate and minimize potential increases in runoff from the project site. The study shall include, but is not limited to, the following: a. A numerical stormwater model for the project site that evaluates existing and proposed (with project) drainage conditions during storm events ranging up to the 100-year event. b. The study shall also consider the potential for erosion and sedimentation in light of modeled changes in stormwater flow across the project area that would result from project implementation. c. Engineering recommendations to be incorporated into the project design and applied within the site boundary. Engineering recommendations will include measures to offset increases in stormwater runoff that would result from the	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		project, as well as implementation of design measures to minimize or manage flow concentration and changes in flow depth or velocity so as to minimize erosion, sedimentation, and flooding on-site or off-site. d. A specification that the final design of the battery energy storage arrays shall include one foot of freeboard clearance above the calculated maximum flood depths for the battery energy storage arrays or the finished floor of any permanent structures. Any permanent infrastructure placed within a 100-year floodplain shall be graded to direct potential flood waters without increasing the water surface elevations more than one foot or as required by Kern County's Floodplain Management Ordinance. e. The Final Drainage Plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards, and approved by the Kern County Public Works Department prior to the issuance of grading permits.	
Impact 4.10-2: The project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	Potentially significant	Implementation of **Mitigation Measures MM 4.10-1**, **MM 4.10-2**, and **MM 4.17-1** is 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	Potentially significant	Implementation of **Mitigation Measures MM 4.4-19, MM 4.4-20**, **MM 4.10-1** and **MM 4.10-2** is required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
that would result in substantial erosion and/or sedimentation on-site or off-site.			
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, in a manner that would result in flooding onsite or offsite.	Potentially significant	Implementation of **Mitigation Measures MM 4.10-1** and **MM 4.10-2** is required.	Less than significant
Impact 4.10-5: The project would create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.	Potentially significant	Implementation of **Mitigation Measures MM 4.10-1** and **MM 4.10-2** is required.	Less than significant
Impact 4.10-6: The project would place structures within a 100-year flood hazard area that would impede or redirect flood flows.	Potentially significant	Implementation of **Mitigation Measures MM 4.10-1** and **MM 4.10-2** is required.	Less than significant
Impact 4.10-7: The project would result in a flood hazard, tsunami, or seiche zone, and risk	Potentially significant	Implementation of **Mitigation Measures MM 4.9-1** and **MM 4.10-2** is required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
release of pollutants due to project inundation.			
Impact 4.10-8: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	No impact	No mitigation measures are required.	No impact
Impact 4.10: Cumulative Impacts	Potentially significant	Implementation of **Mitigation Measures MM 4.4-4, MM 4.4-19**, **MM 4.4-20**, **MM 4.9-1**, **MM 4.10-1**, **MM 4.10-2**, and **MM 4.17-1** is required.	Less than significant
4.11 Land Use			
Impact 4.11-1: The project would physically divide an established community.	No impact	No mitigation measures are required.	No impact
Impact 4.11-2: The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation 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 building permits, the project operator shall provide a Decommission Plan 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 battery energy storage arrays and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. The Decommissioning Plan shall include procedures for restoration and stabilization	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		of disturbed areas; implementation of erosion and sediment control measures; and management of stormwater runoff during and following decommissioning activities consistent with the Kern County Public Works' Development Standard. Temporary and permanent best management practices shall be implemented as necessary until restoration performance standards outlined in the Decommissioning Plan have been achieved and approved by the Kern County Planning and Natural Resources Department. Salvage value for the battery energy storage arrays 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 battery energy storage 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 decommissioning plan; or d. Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department. The financial institution or Surety Company shall give the County at least 180 days' notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Engineering, Surveying, and Permit Services Department or County contracted consulting firm(s) at a cost to be borne by the project operator to substantiate that adequate funds exist to ensure deconstruction of all battery energy storage arrays 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.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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 decommissioning of the site by the County shall be returned to the project operator. Should any portion of the battery energy storage system 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 battery energy storage system owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, battery energy storage system 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 battery energy storage system that has been deemed abandoned be permitted to remain in place for more than forty-eight (48) months from the date the battery energy storage system was first deemed abandoned.	
4.12 Mineral Resources			
Impact 4.12-1: The project would result in the loss of availability of a known mineral resource that would be of value to the region and residents of the State.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.12-2: The project would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.	Less than significant	No mitigation measures are required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.12: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
4.13 Noise			
Impact 4.13-1: The project would result in the generation of a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies.	Potentially significant	**MM 4.13-1:** The following measures are to be implemented to further reduce short-term noise levels associated with project construction and decommissioning: a. Construction and decommissioning activities at the project site shall comply with the hourly restrictions for noise-generating construction activities, as specified in the Kern County Noise Ordinance, Chapter 8.36. Construction activities shall be prohibited between the hours of 9:00 p.m. and 6:00 a.m. on weekdays, and between 9:00 p.m. and 8:00 a.m. on weekends, if they result in noise that is audible to a person with average hearing faculties or capacity at a distance of 150 feet from the construction site, if the construction site is within 1,000 feet of an occupied residential dwelling. 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, unanticipated emergencies requiring immediate attention, or security patrols. b. Stage equipment in areas that will create the greatest distance between construction- related noise sources and noise-sensitive receptors nearest the project site during construction to the extent practical. Place stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, where feasible. c. Ensure construction equipment is fitted with noise-reduction features such as mufflers and engine shrouds that are no less effective than those originally installed by the manufacturer. d. Limit haul trucks from idling for periods greater than 5 minutes, except as needed to perform a specified function (e.g., concrete mixing). e. Limit on-site vehicle speeds to 15 miles per hour, or less (except in cases of emergency). f. Adjust back-up beepers for construction equipment 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, employ alternative safety measures such as escorts and spotters.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		MM 4.13-2: Prior to the issuance of grading permits, the construction contractor shall establish a Noise Disturbance Coordinator for the project during construction. The Noise Disturbance Coordinator is responsible for responding to any complaints about construction noise. The Noise Disturbance Coordinator shall be responsible for determining the cause of the complaint and shall be required to implement reasonable measures to resolve the complaint. Contact information for the Noise Disturbance Coordinator shall be submitted to the Kern County Planning and Natural Resources Department prior to commencement of any ground disturbing activities. **MM 4.13-3:** Prior to commencement of any on-site construction and decommissioning activities (i.e., fence construction, mobilization of construction equipment, initial grading, etc.), the project proponent/operator shall provide written notice to the public through mailing a notice, which shall include: a. The mailing notice shall be to all residences within 1,000 feet of the project site, 15 days or less prior to construction activities. The notices shall include the construction schedule and a telephone number and email address where complaints and questions can be registered with the noise disturbance coordinator. b. A minimum of one sign, legible at a distance of 50 feet, shall be posted at the construction site, or adjacent to the nearest public access to the main construction entrance, throughout construction activities that shall provide the construction schedule (updated as needed) and a telephone number where noise complaints can be registered with the noise disturbance coordinator. c. Documentation that the public notice has been sent and the sign has been posted shall be provided to the Kern County Planning and Natural Resources Department. **MM 4.13-4:** Prior to the issuance of building permits, the project proponent shall demonstrate, through an acoustical study prepared by a qualified acoustical professional and approved by the County, that operational noise generated by the project would not exceed applicable noise standards established by the Willow Springs Specific Plan and Kern County at adjacent or nearby residentially zoned (E, R-1, R-2, R-3, or MP) properties, excluding any such properties owned by a utility or by the project proponent, or its affiliates. To achieve compliance, the final project design may incorporate one or more of the following noise attenuation measures, or equivalent measures that effectively reduce noise: • Install acoustical treatments, such as permanent sound walls of sufficient height and design, silencers, shielding, or other attenuation features to reduce noise	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		generated by BESS containers and associated equipment. • Incorporate sufficient setback distances between the BESS containers and the nearest off-site residentially zoned property. • Select and install low-noise equipment, including but not limited to cooling systems, inverters, transformers, and backup generators. • 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. Any modifications to final site design necessary to accommodate noise attenuation measures and achieve compliance with applicable noise standards shall be considered in substantial conformance with the approved project.	
Impact 4.13-2: The project would result persons to or generation of excessive ground-borne vibration or ground-borne noise levels.	Less than significant	Though the impact is less than significant, implementation of **Mitigation Measure MM 4.13-1** would further reduce impacts.	Less than significant
Impact 4.13-3: For a project 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	No impact	No mitigation measures are required.	No impact
Impact 4.13: Cumulative Impacts	Potentially significant	Implementation of **Mitigation Measures MM 4.13-1** through **MM 4.13-4** is required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.14 Public Services			
Impact 4.14-1: The project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services: fire Protection, Police Protection, Schools, Parks, or Other Public Facilities.	Potentially significant	**MM 4.14-1:** Prior to the issuance of grading or building permits, the project proponent/operator shall develop and implement a Fire Safety Plan for use during construction, operation, and decommissioning. The project proponent/operator shall submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval. A copy of the approved Fire Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department. The Fire Safety Plan shall contain notification procedures and emergency fire precautions, including, but not limited to, the following: a. All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order. b. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory installed (type) muffler in good condition. c. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees. d. Procedures shall be established for minimizing potential ignition, including, but not limited to, vegetation clearing and management, parking requirements/restrictions, idling restrictions, smoking restrictions, and proper use of gas-powered equipment. e. Personnel shall be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires to prevent them from growing into more serious threats. f. The project proponent/operator shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel. g. Building plans shall be included for the energy storage system to verify adherence to Kern County and California Building and Fire Code standards. h. Information for first responders about the type of battery energy storage technology on site, potential hazards and mitigations, and recommended firefighting tactical procedures in case of an accidental fire.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		MM 4.14-2: The project shall pay all legally required property taxes; or a. If the project qualifies, based on State Legislative action and the State Board of Equalization guidance, for any reduction in property taxes under a specific property tax relief for battery energy storage, regardless of the name, then the following Cumulative Impact Charge (CIC) shall apply. The first annual payment is to be paid by December 31 of the year the first legislatively provided property tax reduction is assessed, and annually every year for the life of the project, or as a lump sum for multiple years, until the project is decommissioned and the Conditional Use Permit is voided. 1. Submittal of Building Permit or Calculation of Amount A. Any building permit or calculation of amount submitted shall be accompanied by a map and legal description of the entire approved Conditional Use Permit area. B. The map shall calculate the CIC net acreage as follows: 1. Total gross acreage of the approved Conditional Use Permit. 2. Total acres of recorded easements. 3. Delineation of any permanent structures or energy storage that is not covered under a property tax reduction and evidence from legislation or State Board of Equalization that they have no reduction in taxes. C. Formula is Net Acreage = B.1 minus B.2 and B.3, if applicable. D. Temporary storage areas or non-permanent commercial coaches or cargo containers for construction or operations are not eligible for inclusion under B.3, above. E. All areas of buildings, accessory improvements and easements used in the calculations shall be shown on the submitted Map. 2. Calculation of Cumulative Impact Charge (CIC) and annual payment A. A payment of $690 per net acre shall be paid annually for all acres in the approved Conditional Use Permit regardless of phased implementation of building permits, the total number of building permits, or type of building permit issued.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		B. The first annual payment is to be paid by December 31 of the year the first property tax reduction is assessed. If it is not paid by December 31 of that year, then a notice of violation of the Conditional Use Permit shall be filed and the procedure in Chapter 19.114 shall commence immediately under the authority of the Director. C. Annual payments are due every year on the date of the first payment. D. Payments shall be made to the Planning and Natural Resources Department for transfer directly to the County Administrative Office Fiscal Division (CAO) and labeled Cumulative Impact Charge (CIC) with the project name, location, and APNs. E. An advance payment option for a lump sum of all payment years, or a reduction in each year's payment for 5 or more years, may be requested by submittal of a written request to the Planning and Natural Resources Department with details of the offer, no later than 60 days before the annual payment is due. A 10% discount on the lump sum amount will be applied if the advance payment option is accepted by the County Administrative Office Fiscal Division (CAO) by written response. **MM 4.14-3:** The project proponent/operator shall work with the County to determine how the use of sales and use taxes from construction of the project can be maximized. This process shall include, but is not necessarily limited to, the project proponent/operator obtaining a street address within the unincorporated portion of Kern County for acquisition, purchasing and billing purposes, and registering this address with the State Board of Equalization. As an alternative to the aforementioned process, the project proponent/operator may make arrangements with Kern County for a guaranteed single payment that is equivalent to the amount of sales and use taxes that would have otherwise been received (less any sales and use taxes actually paid); with the amount of the single payment to be determined via a formula approved by Kern County. The project proponent/operator shall allow the County to use this sales tax information publicly for reporting purposes. **MM 4.14-4:** Prior to the issuance of building permits, 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	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		programs that provide skilled workers and shall require the contractor to advertise locally for available jobs, notifying the training programs of job availability, all in conjunction with normal hiring practices of the contractor.	
Impact 4.14: Cumulative Impacts	Potentially significant	Implementation of **Mitigation Measures MM 4.14-1** through **MM 4.14-4** is required.	Less than significant
4.15 Transportation			
Impact 4.15-1: The project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	Potentially significant	**MM 4.15-1:** Prior to the issuance of grading 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: 1. Timing of deliveries of heavy equipment and building materials during off-peak hours to the extent feasible; 2. Review of transport routes to determine how turns on existing roads would be accomplished and identifying intersections at which use of a flag person would be required to assist large trucks in making unobstructed turns; 3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic; 4. Establish procedures for coordinating with local emergency response agencies to ensure dissemination of information regarding emergency response vehicle routes affected by construction activities; 5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections; 6. Maintaining access to adjacent property; 7. Encourage carpooling among workers to reduce worker commute trips entering and exiting the study area; and	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		8. 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. 9. Temporarily convert the intersection of 170th Street and Avenue A from a two-way stop control to an all-way stop control during the AM and PM construction worker commute periods. b. Obtain all necessary encroachment permits for work within the road right-of-way or use of oversized/overweight vehicles that will utilize County-maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Natural Resources Department and the Kern County Public Works Department- Development Review. 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 Works 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 electronic format. The County, in consultation with the project proponent/operator's engineer, shall determine the extent of remediation required, if any.	
Impact 4.15-2: The project would conflict with or be inconsistent with CEQA Guidelines	Less than significant	No mitigation measures are required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Section § 15064.3, subdivision (b).			
Impact 4.15-3: The project would substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Potentially significant	Implementation of **Mitigation Measure MM 4.15-1** is required.	Less than significant
Impact 4.15-4: The 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
4.16 Tribal Cultural Resources			
Impact 4.16-1: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §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	Potentially significant	Implementation of **Mitigation Measures MM 4.5-1** through **MM 4.5-5** is required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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).			
Impact 4.16-2: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources § 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	Potentially significant	Implementation of **Mitigation Measures MM 4.5-1** through **MM 4.5-5** is required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.			
Impact 4.16: Cumulative Impacts	Potentially significant	Implementation of **Mitigation Measures MM 4.5-1** through **MM 4.5-5** is required.	Less than significant
4.17 Utilities and Service Systems			
Impact 4.17-1: The project would require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.	Potentially significant	Implementation of **Mitigation Measures MM 4.10-1** and **MM 4.10-2** is required.	Less than significant
Impact 4.17-2: The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during	Potentially significant	**MM 4.17-1**: Prior to the issuance of any grading or building permit, the project proponent shall provide written documentation to the Kern County Planning and Natural Resources Department demonstrating sufficient water supplies have been secured and will be available to serve project construction, operation, and decommissioning. Documentation shall demonstrate that the identified water source(s) are capable of meeting the project's projected water demand, as identified in the project Water Supply Assessment, during normal, single-dry, and multiple-dry years.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
normal, dry and multiple dry years.		Documentation may include one or more of the following: a. A will serve letter or service agreement from a retail water provider or water purveyor, demonstrating that adequate water supplies are available to serve the project. b. Documentation from the applicable groundwater authority, Watermaster, or other regulatory agency, demonstrating that a new well drilled and developed within the project boundaries, as permitted by Kern County Public Health, is authorized and sufficient to serve the water demand for the life of the project, including any applicable production rights, pumping allocations, or approvals and identifying the annual amount of groundwater pumping allowed per year. c. A water supply agreement with an off-site provider identifying the source, quantity, duration, and delivery method of water available to the project. d. Other documentation acceptable by the Kern County Planning and Natural Resources Department demonstrating that available water supply has been secured for the life of the project.	
Impact 4.17-3: Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	No impact	No mitigation measures are required.	No impact
Impact 4.17-4: The project would generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the	Potentially significant	Implement **Mitigation Measure MM 4.1-1** and the following: **MM 4.17-2:** Prior to issuance of a grading or building permit, an on-site Waste Disposal and Recycling Coordinator shall be designated by the project proponent/operator to facilitate waste disposal and recycling as part of the Maintenance, Trash Abatement, and Pest Management Program. The provisions listed below shall apply to the project: a. The project proponent/operator shall provide a storage area (or areas) for waste and recyclable materials within the fenced project site that is clearly identified for	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
attainment of solid waste reduction goals.		waste and recycling. This area shall be maintained on the site during construction, operations, and decommissioning. b. During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible. c. The Waste Disposal and Recycling Coordinator shall facilitate recycling of all construction and decommissioning waste through coordination with contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. d. The Waste Disposal and Recycling Coordinator shall coordinate with Kern County Public Works Department – Solid Waste Division the acceptance for disposal or recycling of construction and decommissioning waste prior to being transported to any public disposal facility. e. The Waste Disposal and Recycling Coordinator shall ensure that materials transported to public disposal facilities for recycling shall be separated by material type so as not to be co-mingled or contaminated with waste material. f. The Waste Disposal and 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. g. Contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits.	
Impact 4.17-5: The project would comply with Federal, State, and local management and reduction statutes and regulations related to solid waste.	Potentially significant	Implementation of **Mitigation Measures MM 4.1-1** and **MM 4.17-1** is required.	Less than significant
Impact 4.17: Cumulative Impacts	Potentially significant	Implementation of **Mitigation Measures MM 4.1-1, MM 4.10-1**, **MM 4.10-2**, **MM 4.17-1** and **MM 4.17-2** is required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.18 Wildfire			
Impact 4.18-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.	Potentially Significant	Implementation of **Mitigation Measure MM 4.15-1** is required.	Less than significant
Impact 4.18-2: The project would, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	Potentially significant	Implementation of **Mitigation Measures MM 4.1-3, MM 4.9-1**, and **MM 4.14-1** is 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	Implementation of **Mitigation Measure MM 4.14-1** is required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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	Implementation of **Mitigation Measures MM 4.10-1** and **MM 4.10-2** is required.	Less than significant
Impact 4.18: Cumulative Impacts	Potentially significant	Implementation of **Mitigation Measures MM 4.1-1, MM 4.9-1, MM 4.10-1, MM 4.10-2, MM 4.14-1**, and **MM 4.15-1** is required.	Significant and unavoidable

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Chapter 2
Introduction

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Chapter 2
Introduction

2.1 Intent of the California Environmental Quality Act

The Kern County Planning and Natural Resources Department (County), as Lead Agency, has determined that an Environmental Impact Report (EIR) must be prepared for the Euismod Energy Storage Project (project) as proposed by Euismod Project LLC and Euismod Project I LLC (project proponents), given its potential to result in significant environmental impacts. The following provides a brief overview of the intent of the California Environmental Quality Act (CEQA), background information concerning this Draft EIR—including CEQA procedural and substantive requirements that apply to the Draft EIR—and summarizes comments received to date on the environmental analysis.

The project proponents propose to construct a battery energy storage system (BESS) facility and associated infrastructure capable of storing approximately 9,200 megawatt-hour (MWh) of energy within approximately 105.6 acres of the 120-acre project site. Other permanent structures and facilities that would be built or constructed as part of the project include collector substations, Supervisory Control and Data Acquisition (SCADA) Systems, telecommunication towers, operation and maintenance support buildings, permanent climate-controlled storage containers, and an incident command center. The project may be constructed in multiple phases.

The project would also include two 220-kilovolt overhead transmission lines (tie-lines) that would interconnect with the existing Southern California Edison (SCE) Whirlwind Substation located adjacent to the project site. In addition, two independent fiberoptic communication lines would be installed for each tie-line to provide system reliability and would connect the collector substations to the existing communications room at the Whirlwind Substation. SCE work inside the existing Whirlwind Substation fenceline installation would include two dead-end structures for the tie-lines, along with a new line position and switchrack position for each of the tie-lines.

This Draft EIR has been prepared pursuant to the following:

- The California Environmental Quality Act (Public Resources Code, Section 21000 et seq.)
- The State CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Article 1, Chapter 3, Section 15000 et seq.)
- The Kern County CEQA Implementation Document

The overall purposes of the CEQA process are as follows:

- 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 Draft EIR analyzes the potential environmental impacts of the project. The Kern County Planning Commission and Board of Supervisors will consider the information in the Draft and Final EIR, including the public comments and staff response to those comments, during the public hearing process. The final decision is made by the Kern County Board of Supervisors, who may approve, conditionally approve, or deny the project. The purpose of an EIR is to identify the following:

- The potential significant impacts of the project on the environment and the manner in which any of those significant impacts can be avoided or mitigated
- Any unavoidable adverse impacts that cannot be mitigated
- 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 other 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 feasible mitigation measures proposed to reduce the impacts. A Draft EIR is circulated to responsible agencies, trustee agencies with resources affected by the project, and interested agencies and individuals. The purposes of public and agency review of a Draft EIR include sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting mitigation measures and alternatives capable of avoiding or reducing the significant effects of the project, while still attaining most of the basic objectives of the project.

Issues to Be Resolved

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

- Determine whether the EIR adequately describes the environmental impacts of the project.
- Identify a preferred choice among alternatives.
- Determine whether the recommended mitigation measures should be adopted or modified.
- Determine whether additional mitigation measures need to be applied to the project.

2.3 Terminology

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

- *Project* means the whole of an action that has the potential for resulting in a 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 project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved is the locale in which significant direct or indirect impacts would occur as a result of the project. The environment includes both natural and human-caused conditions.
- *Impacts* analyzed under CEQA must be related to a physical change and may include the following:
  - *Direct* (or primary) impacts, which are caused by a project and occur at the same time and place as project implementation; or
  - *Indirect* (or secondary) impacts, which are caused by a project and occur later in time or farther removed in distance, but are nevertheless reasonably foreseeable. Examples may include growth-inducing impacts and other effects related to induced changes in land use patterns, population density, population growth, and related effects on air, water, and other natural systems.
- *Significant impact on the environment* means a substantial, or potentially substantial, adverse change in any of the physical conditions in the area affected by a project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. An economic or social change resulting from a project 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 a 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
  - 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 future projects. Cumulative impacts can result from individually minor but collectively significant projects occurring over time.

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

- *No impact.* The environmental resource is either not present on the project site or within the project vicinity, or the project has no potential to result in a direct, indirect, or cumulative impact on the environmental resource being evaluated. No mitigation measures are required when there is a no impact determination.
- *Less than significant.* The project would result in an adverse impact; however, the impact would not exceed the applicable threshold of significance. Impacts that are considered less than significant do not require mitigation measures.
- *Significant.* The project would result in an adverse environmental impact that exceeds an applicable threshold of significance. Mitigation measures are identified where feasible to avoid, minimize, rectify, reduce, or compensate for the impact and reduce it to a less-than-significant level.
- *Significant and unavoidable.* The project would result in an adverse environmental impact that exceeds an applicable threshold of significance and cannot be reduced to a less-than-significant level through the implementation of all feasible mitigation measures. Consequently, the impact would remain significant after mitigation.

2.4 Decision-making Process

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

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

- **Notice of Preparation (NOP).** The County prepared and circulated a NOP for 30 days to responsible, trustee, and local agencies for review and comment beginning on December 22, 2025, and ending on January 21, 2026.
- **Draft EIR Preparation/Notice of Completion (NOC).** A Draft EIR is prepared, incorporating public and agency responses to the 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, the County will provide for a 45-day public review period of the Draft EIR. The 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. Both the Planning Commission and Board of Supervisors will hold at least one public hearing to consider the Final EIR, take public testimony, and then approve, conditionally approve, or deny the project.

Notice of Preparation

Pursuant to Section 15082 of the CEQA Guidelines, as amended, the County circulated an NOP for a 30-day public review period beginning on December 22, 2025, and ending on January 21, 2026. The NOP was sent to the State Clearinghouse at the Governor's Office of Land Use and Climate Innovation (previously referred to as the Governor's Office of Planning and Research), public agencies, special districts, responsible and trustee agencies, and other interested parties to solicit statewide agency participation in determining the scope of this Draft EIR.

The purpose of the NOP is to formally convey that the County, as the Lead Agency, solicited input regarding the scope and proposed content of this Draft EIR. With respect to the following resource areas, which were discussed in the NOP, it was determined that no impact would occur that would require analysis in the Draft EIR:

- Population and Housing
- Recreation

The NOP determined that the project would require an operational/maintenance staff of up to 12 employees, including up to six full-time and six part-time. It is estimated that up to 220 construction workers per day would be required during peak construction periods for the proposed project. Project construction is anticipated to take two years, with work by various trades encompassing shorter durations. Local unions representing these trades have a strong regional presence, and most workers are expected to commute to the project site on a daily basis. The construction contractor would be responsible for hiring workers and would preferentially hire from the local labor pool.

Construction workers are expected to travel to the project site from various local communities and locations throughout Southern California. Because these positions would be temporary, few, if any, workers are expected to relocate to the surrounding area. If temporary housing is needed, sufficient accommodations are expected to be available in nearby communities, including Rosamond, Mojave, Lancaster, and surrounding areas (e.g., extended-stay hotels, apartments, recreational vehicle parks, and rental housing).

As a result, the project is not anticipated to directly or indirectly induce substantial new residential housing or business development within local communities. Furthermore, there would be no detectable increase in the use of parks or other recreational facilities. Accordingly, no significant impacts related to population and housing or recreation would occur. In addition, no comments were received during circulation of the NOP, indicating that population and housing or recreation are issue areas requiring further analysis. Therefore, these topics are not discussed in detail in this Draft EIR. **Chapter 5**, *Consequences of Project Implementation*, also discusses the basis for determining that impacts associated with these resources do not warrant detailed analysis. The NOP and all comment letters received during the scoping period are provided in **Appendix A**.

Scoping Meeting

Pursuant to Section 15082 (c)(1) of the CEQA Guidelines, for projects of statewide, regional, or area-wide significance, the lead agency is required to conduct at least one scoping meeting. The scoping meeting is for jurisdictional agencies and interested persons or groups to provide comments regarding (but not limited to) the range of actions, alternatives, mitigation measures, and environmental effects to be analyzed in the Draft EIR. The County hosted a scoping meeting on January 14, 2026, at the Kern County Planning and Natural Resources Department, located at 2700 "M" Street, Suite 100, Bakersfield, California.

Notice of Preparation and Scoping Meeting Results

During the January 14, 2026, scoping meeting, one member of the public, representing the Western States Regional Council of Carpenters, was present but made no verbal comments. Specific concerns raised in written comments received during the NOP public review period are discussed below. The NOP, all comments received, and the summary of proceedings from the NOP public review period are included in **Appendix A**.

NOP Written Comments

Table 2-1, *Summary of NOP Comments,* summarizes the written comments received during the NOP public review period. All comment letters received are included in **Appendix A**.

TABLE 2-1: SUMMARY OF NOP COMMENTS

Commenter	Summary of Comment
State Agencies	
California Department of Conservation, Geologic Energy Management Division (CalGEM) December 30, 2025	The commenter states that there are no known oil or gas wells located within the project boundary, and makes the following statements and comments: • Advises against building over, or in any way impeding access to, oil, gas, or geothermal wells. • Advises that wells identified on the project site before, or during, development activities be tested for liquid and gas leakage. Surveyed locations in Latitude and Longitude, NAD 83 decimal format, and leak testing results should be provided to CalGEM. • Requires the submission of a Notice of Intention to CalGEM through WellSTAR if any wells require abandonment or re-abandonment. • Recommends that information on known wells and any other pertinent information obtained after the issuance of the comment letter be communicated to the Kern County recorder for inclusion in the title information of the subject real property. • Recommends that any soil containing hydrocarbons be disposed of in accordance with all laws, and to notify authorities if soil containing significant amounts of hydrocarbons is discovered during development.
State of California Native American Heritage Commission (NAHC) Letter on December 18, 2025	Recommends consultation with California Native American tribes that exist in the vicinity of the project site, pursuant to Assembly Bill 52 and Senate Bill 18 tribal notification requirements. The commenter also provides recommendations for cultural resource assessment.
Local Agencies	
Kern County Public Works Letter on January 14, 2026	The following Kern County Public Works Divisions reviewed the subject project and have no comments: Development Review, Sewer and Water, and CSA. The Floodplain Management Division makes the following statements and comments: • The project would increase stormwater runoff due to the proposed increase in impervious surfaces. • The subject property is in an area subject to flooding. • Requests two conditions of project approval: (1) provide a plan for the disposal of drainage waters originating on-site and from adjacent road rights-of-way; and (2) incorporate associated flood hazard requirements into the design of the project, per the Kern County Floodplain Management Ordinance.

Commenter	Summary of Comment
Kern County Superintendent of Schools Letter on January 14, 2026	The commenter states that the project would not result in a significant impact on schools or district facilities as long as statutory school fees, if collected, and no further mitigation measures regarding school facilities are necessary.
Eastern Kern Air Pollution Control District Letter on January 28, 2026	Commenter makes the following statements and comments: • Projects disturbing 10 or more contiguous acres are required to submit a Fugitive Dust Emission Control Plan for District approval before commencing construction activities. • A Permit to Operate is required when stationary internal combustion engines, portable engines to provide power to a building, or portable engines remain on-site for more than 12 consecutive months. • Gasoline storage tanks with a capacity greater than 250 gallons also require a Permit to Operate.
Kern County Fire Department Letter on January 8, 2026	The commenter states the following: • All battery energy storage systems must be permitted and approved by the Kern County Fire Department. • All proposed batteries must be Underwriters Laboratories 9540A 2019 4th Edition tested for large-scale burns to determine adequate design and mitigation measures. • Additionally, the 24,000-gallon fire water tank and fire alarm annunciator panel (Incident Command Center) must be located a minimum of 300' upwind from the nearest battery enclosure. • Site emergency response access for the storage yards is preferred to be placed upwind of battery enclosures based on the prevailing winds in the area of construction. • A more detailed review and project comments will be conducted when the building permit is obtained, and plans are submitted to the Kern County Fire Department.
Interested Parties	
Prasad Koppaka Letter on January 10, 2026	Commenter indicated that they share the boundary along the east side of the proposed project footprint and requested that the Environmental Impact Report discuss impacts on noise, visual resources, construction, fire, and land use as well as cumulative impacts.
Kern Audubon Society Letter on January 12, 2026	The commenter states that the proposed project site, which includes disturbed agricultural fields and undeveloped Joshua tree and desert saltbush scrub habitat, has the potential to support sensitive wildlife species, including desert kit fox, American badger, western burrowing owl, Swainson's hawk, loggerhead shrike, Mohave ground squirrel, and desert tortoise. The commenter emphasizes the need for comprehensive biological analyses and evaluation of both project-level and cumulative impacts on sensitive biological resources. The commenter provides the following recommendations regarding biological resource evaluation: • All biological site evaluations for these species be performed by qualified biological consultants using appropriate survey protocols by both state and federal wildlife agencies. • All biological surveys be performed during the appropriate time of year to discern species presence for this eco-region, particularly for the desert tortoise and Mohave ground squirrel.

Commenter	Summary of Comment
	• Evaluate the potential for the project to subsidize common raven populations, which may increase predation on desert tortoise populations. • Provide a detailed cumulative impacts analysis for sensitive biological resources due to the project's proximity to other large energy developments. • Assess potential impacts on migratory birds associated with the Sierra flyway. • Include a detailed analysis of direct and cumulative impacts on Swainson's hawk and its use of the project area.
Carol (Reece) Schroeder Letter on January 13, 2026	The commenter objects to the project and expresses concerns about the potential effects on groundwater contamination and biological resources. They mention that their property may be developed for agricultural uses in the future, including pistachio cultivation and beekeeping. The commenter is concerned that the project's development could impact these potential agricultural endeavors.
Western States Regional Council of Carpenters Letter on January 21, 2026	Provided recommendations regarding community benefits, local hiring, building standards, and additional mitigation for public health risks.

Availability of the Draft EIR

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

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

This Draft EIR is also available on the Kern County Planning and Natural Resources Department website: https://kernplanning.com/environmental-doc/euismod-energy/.

Additionally, a printed copy of this Draft EIR is available at the following libraries:

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

Kern County Library
Mojave Branch
16916 ½ Highway 14, Space D2
Mojave, CA 93501Format and Content

This Draft 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 Draft EIR address potentially significant environmental effects on the following resources:

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

The NOP also considered and determined that no impact would occur on the following resources:

- Population and Housing
- Recreation

A brief explanation of why these topics were not included in the Draft EIR can be found in the NOP and in **Chapter 5**, *Consequences of Project Implementation*.

Required EIR Content and Organization

This Draft EIR includes all CEQA-required topics. **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 Draft EIR document.

TABLE 2-2: REQUIRED EIR CONTENTS

Requirement (CEQA *Guidelines* Section)	Location in EIR
Table of contents (Section 15122)	Table of Contents
Summary (Section 15123)	Chapter 1
Introduction (Section 15132)	Chapter 2
Project description (Section 15124)	Chapter 3
Significant environmental impacts (Section 15126.2)	Sections 4.1–4.18
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

Requirement (CEQA *Guidelines* Section)	Location in EIR
Significant irreversible changes	Chapter 5
Unavoidable significant environmental impacts (Section 15126.2)	Chapter 5; Sections 4.1–4.18
Alternatives to the project (Section 15126.6)	Chapter 6
Response to Comments (Section 15132)	Chapter 7
Organizations and persons consulted	Chapter 8
List of preparers (Section 15129)	Chapter 9
References (Section 15129)	Chapter 10

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

- **Chapter 1**, *Executive Summary*, provides a summary of the project description, known areas of controversy and issues to be resolved, and a concise summary matrix of the project's potential environmental impacts and mitigation measures. This chapter also identifies alternatives that reduce or avoid at least one significant environmental effect of the project.
- **Chapter 2**, *Introduction*, describes the purpose of the environmental evaluation, provides CEQA compliance information, summarizes the decision-making process associated with the preparation and certification of an EIR, identifies the scope and organization of this Draft EIR, lists the responsible and trustee agencies, and summarizes comments received on the NOP.
- **Chapter 3**, *Project Description*, provides a detailed description of the project, including the location, objectives of the project, the physical and technical characteristics, and the relationship of the project 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, project impacts, mitigation measures, and cumulative impacts.
- **Chapter 5**, *Consequences of Project Implementation*, presents an analysis of environmental effects found to be less than significant, significant and irreversible impacts, growth-inducing effects, and significant and unavoidable environmental effects.
- **Chapter 6**, *Alternatives*, describes a reasonable range of alternatives to the project that could feasibly attain the basic objectives of the project and avoid and/or lessen any significant and unavoidable environmental effects of the project.
- **Chapter 7**, *Responses to Comments*, is reserved for responses to comments on this Draft EIR.
- **Chapter 8**, *Organizations and Persons Consulted*, lists the organizations and persons contacted during preparation of this Draft EIR.
- **Chapter 9**, *Preparers*, lists all authors and agencies involved in the preparation of this Draft EIR.
- **Chapter 10**, *Bibliography*, identifies reference sources for this Draft EIR.
- **Chapter 11,** *Acronyms and Abbreviations*, provides definitions of acronyms and abbreviations used throughout this Draft EIR.

- *Appendices* provide information and technical studies that support the environmental analysis contained within this Draft EIR.

The analysis of each environmental category in **Chapter 4**, *Environmental Setting, Impacts, and Mitigation Measures* is organized as follows:

- "Introduction" provides a brief overview of the purpose of the section being analyzed with regard to the project and identifies the primary sources of information used to prepare the section.
- "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, the Kern County General Plan and Willow Springs Specific Plan goals, policies, and implementation measures that apply to the topic being analyzed.
- "Project Impacts and Mitigation Measures" identifies the thresholds of significance by which impacts are determined, a description of project-related impacts associated with the environmental category, identifies feasible mitigation measures to reduce any impacts, and provides a conclusion as to the significance of each impact.
- "Cumulative Setting, Impacts, and Mitigation Measures" provides a discussion of the cumulative geographic scope for the environmental category being analyzed, the project's potential contribution to a significant cumulative impact, and any mitigation measures to reduce any impacts to the greatest extent feasible.

2.5 Responsible and Trustee Agencies

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

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

The various public, private, and political agencies and jurisdictions with a particular interest in the project (based on the findings of the environmental analysis) may include the following:

Federal Agencies

- United States Environmental Protection Agency
- United States Army Corps of Engineers
- United States Fish and Wildlife Service

State Agencies

- California Air Resources Board
- California Department of Conservation, Geologic Energy Management Division
- California Public Utilities Commission
- California Department of Fish and Wildlife
- California Department of Toxic Substances Control
- California Department of Transportation
- California Department of Public Health
- California Highway Patrol
- California Native American Heritage Commission
- Governor's Office of Land Use and Climate Innovation
- State Water Resources Control Board
- Regional Water Quality Control Board, Lahontan District

Local Agencies

- Eastern Kern County Air Pollution Control District
- Kern Council of Governments

Kern County

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

Other additional permits or approvals from responsible and trustee agencies, as well as from Kern County, may be required for the project.

2.6 Incorporation by Reference

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

Kern County General Plan

The Kern County General Plan (KCGP) is a policy document with land use maps and related information that are designed to give long-range guidance to County officials who make decisions that affect 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 KCGP also guides the private sector in aligning development initiatives with the public plans, objectives, and policies of Kern County.

Willow Springs Specific Plan

The Willow Springs Specific Plan planning area encompasses approximately 50,560 acres in the southernmost portion of Kern County along the Los Angeles County border. Adopted in March 1992 and last amended on April 1, 2008, the plan guides development within the unincorporated community of Willow Springs. The Willow Springs Specific Plan establishes goals, policies, and implementation measures to accommodate future growth while addressing and protecting the community's unique land use, transportation, business, and environmental considerations. The plan supplements the KCGP by providing performance standards and a land use framework tailored to the specific needs of the Willow Springs planning area.

The Willow Springs Specific Plan contains additional policies, goals, and implementation measures that are more general in nature and are not directly applicable to the project; therefore, they are not discussed further in this Draft EIR. Nonetheless, all applicable policies, goals, and implementation measures in the Willow Springs Specific Plan are incorporated herein by reference. The project site is located entirely within the boundaries of the Willow Springs Specific Plan area.

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 as follows:

- Provide the economic and social advantages resulting from an orderly planned use of land resources.
- Encourage and guide development consistent with the KCGP.
- Divide Kern County into zoning districts of a number, size, and location deemed necessary to carry out the purposes of the KCGP 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.
- Provide for the enforcement of the regulations of Chapter 19.02.

Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern Council of Governments (COG) and was adopted on July 21, 2022. The 2022 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. The 2022 RTP includes the Sustainable Communities Strategy (SCS), which is required by California's Sustainable Communities and Climate Protection Act, Senate Bill 375. The California Air Resources Board (CARB) set targets for Kern County's GHG emissions reductions from passenger vehicles and light-duty trucks at 9 percent per capita by 2020 and 15 percent per capita by 2035 as compared to 2005. In addition, Senate Bill 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation, ensuring consistency between low-income housing need and transportation planning. Kern COG is a federally designated Metropolitan Planning Organization and a state-designated Regional Transportation Planning Agency. These designations formally establish Kern COG's role in transportation planning. Preparing an RTP is one of Kern COG's primary statutory responsibilities under federal and State law.

2.7 Sources

This Draft EIR is based on information from numerous sources. Some sources are studies or reports 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 Draft EIR are listed in **Chapter 10**, *Bibliography*. The Draft EIR and the full administrative record for the project, including all studies, 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, and on the Kern County Planning and Natural Resources Department website: https://kernplanning.com/environmental-doc/euismod-energy/.

Chapter 3
Project Description

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Chapter 3
Project Description

3.1 Introduction

This Draft 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 the construction, operation, and decommissioning of the Euismod Energy Storage Project (project) proposed by Euismod Project LLC and Euismod Project I LLC (project proponents). The project proponents propose to develop and operate a 9,200 megawatt-hour (MWh) capacity battery energy storage system (BESS) facility with associated infrastructure on an approximately 120-acre project site in the unincorporated area of southeastern Kern County, California, as shown in **Figure 3-1,** *Regional Vicinity*. The BESS facility would use lithium-ion batteries and ancillary equipment to store electricity from the regional grid, to be supplied back as needed. The BESS facility and infrastructure for the project would be arranged in the following three designated areas: North BESS area, South BESS area, and West BESS area, as shown in **Figure 3-2,** *Project Aerial*. The associated infrastructure would include battery energy storage arrays, collector substations, Supervisory Control and Data Acquisition (SCADA) Systems, microwave communications towers, operation and maintenance support buildings, climate-controlled permanent storage containers, an incident command center, power infrastructure, water infrastructure, roads and improved surfaces, two 220-kilovolt (kV) overhead tie-lines to the Southern California Edison (SCE) Whirlwind Substation located on the adjacent parcels to the south of the project site, and a temporary laydown yard.

The SCE components of the project include the two overhead tie-lines from the two points of change in ownership (POCOs) located on the project site to the proposed dead-end structures within the existing Whirlwind Substation, and interconnection of the tie-lines to the existing substation facilities. The tie-lines would consist of single- or double-circuit overhead conductor cables and static wires; redundant fiber-optic communication lines that are either overhead, underground, or both; and steel pole or tower support structures. SCE work inside the existing Whirlwind Substation fenceline installation would include two dead-end structures for the tie-lines, along with a new line position and switchrack position for each of the tie-lines. SCE would be responsible for upgrading both the Whirlwind Substation (within SCE's property) as well as the necessary improvements to the tie-lines connecting the substation to the project site to accommodate the interconnection.

Near the end of the project's anticipated operational life of up to 35 years, the project proponent would determine whether the project should be decommissioned and deconstructed, or whether the project proponents would seek an extension of the project's operation and the appropriate permitting pathways. If any portion of the project site is decommissioned, the BESS structures would be removed to facilitate conversion of the project site to other uses in accordance with the applicable land use regulations in effect at that time.

The project proponents have requested Zone Classification Changes (ZCC) to change the existing base zoning district (excluding their combining zone classification) to the A (Exclusive Agriculture) District for those project parcels not already zoned A. BESSs are authorized within the A District with approval of a Conditional Use Permit (CUP) pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance. Therefore, concurrent approval of the requested ZCCs and the CUPs, in addition to other land use entitlements listed in **Section 3.6**, *Project Description*, is required to develop the project. Two separate

CUPs are required for the construction and operation of the BESS facility because the project has two project proponents. The Euismod Project LLC would be the project proponent under CUP No. 18, Map 233, which is also depicted as the designated South BESS area. The Euismod Project I LLC would be the project proponent under CUP No. 19, Map 233, which is also depicted as both the designated North and West BESS areas. Construction and operation of the proposed tie-lines, although proposed to be analyzed as part of the overall project, are exempt from the County's zoning code in accordance with Section 19.08.090 and only require ministerial permits granted by the Kern County General Services Division.

3.2 Project Location and Access

The project site is at the northern edge of the Antelope Valley in Kern County, California. It is situated approximately 8 miles west of the unincorporated community of Rosamond and approximately 17 miles south of the incorporated City of Tehachapi. The project site is also approximately 15 miles west of State Route 14 and 6 miles north of State Route 138. It consists of 10 parcels totaling approximately 120 acres. The project site is within the U.S. Geological Survey Fairmont Butte quadrangle, and in Section 14 of Township 9 North, Range 15 West of the San Bernardino Baseline and Meridian. The project site boundary is shown in **Figure 3-1,** *Regional Vicinity.*

The project site is located northwest of the intersection of 170th Street West and Rosamond Boulevard. Primary access for both construction and operations would be provided from 170th Street West, as shown in **Figure 3-2,** *Project Aerial*. Staging and parking for construction would occur on-site near active work areas as development progresses, along with an approximately 3-acre temporary laydown yard on-site located near 170th Street West. The project would interconnect with the SCE Whirlwind Substation via two overhead electric tie-lines, as previously described.

The project site consists of 10 privately owned parcels that have been purchased, leased, or are in the process of purchase or lease acquisition by the project proponents (and whose owners have agreed to be part of the project). Of the ten parcels, one parcel is in the designated South BESS area, four parcels are in the designated North BESS area, and five parcels are in the designated West BESS area. The boundary of the project site is defined by the CUP boundaries. The Assessor Parcel Numbers (APNs) and additional parcel details, including existing land uses and acreages, are included in **Table 3-1,** *Project Assessor Parcel Number, Existing Specific Plan Designations, Existing Zoning Classifications, Proposed Zoning Classifications, Zone Variance Required, and Acreages*.

The project is designed to leave section and mid-section road reservations and legal access to other parcels intact. The project proponents have requested non-summary vacations to eliminate public access easements on some of the parcels on the project site to accommodate on-site equipment and road layout efficiencies (**Figure 3-3,** *Easement Vacations*). None of the requested vacations would prevent legal access to any surrounding parcel.

Figure 3-1: Regional Vicinity

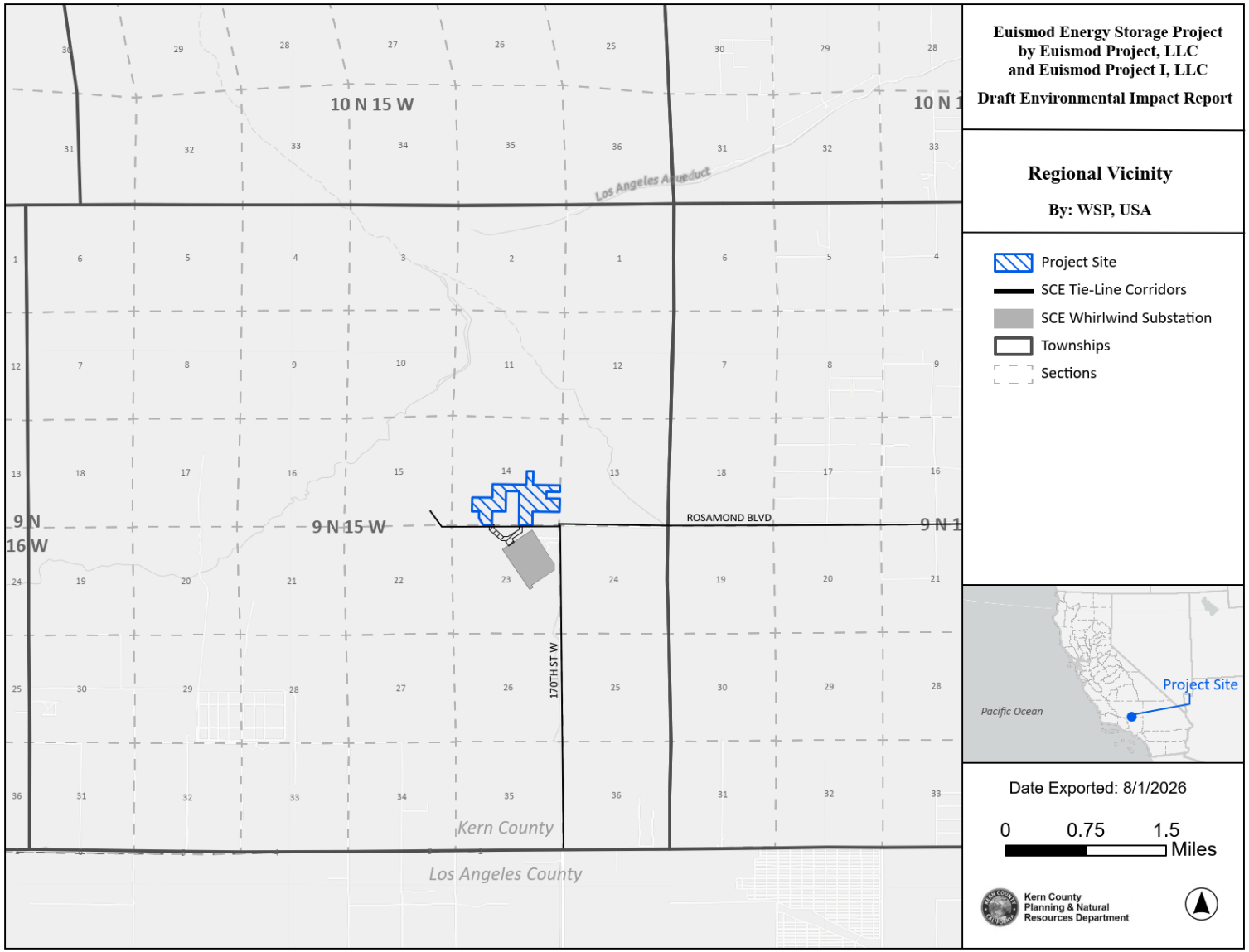


Figure 3-2: Project Aerial

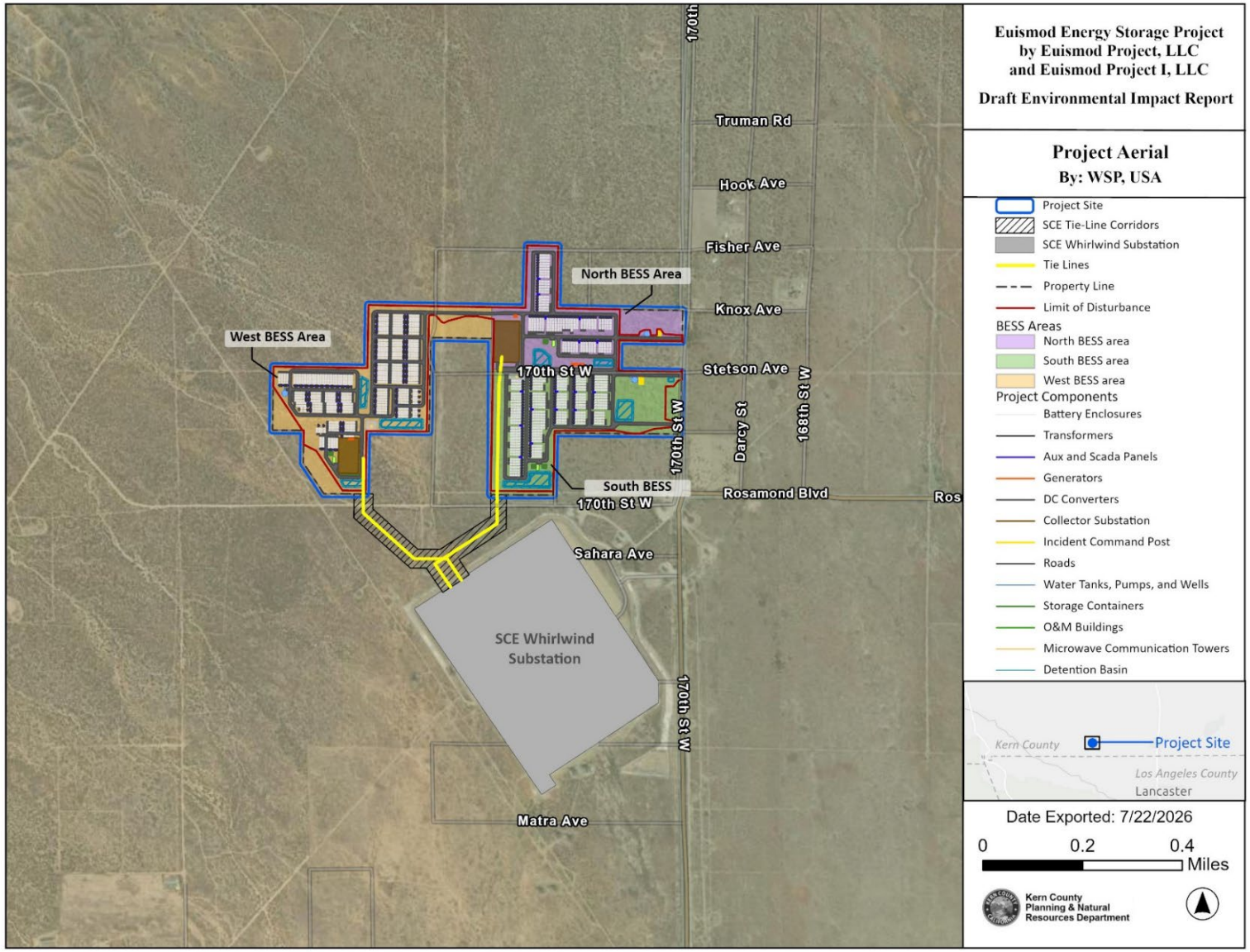


Figure 3-3: Easement Vacations

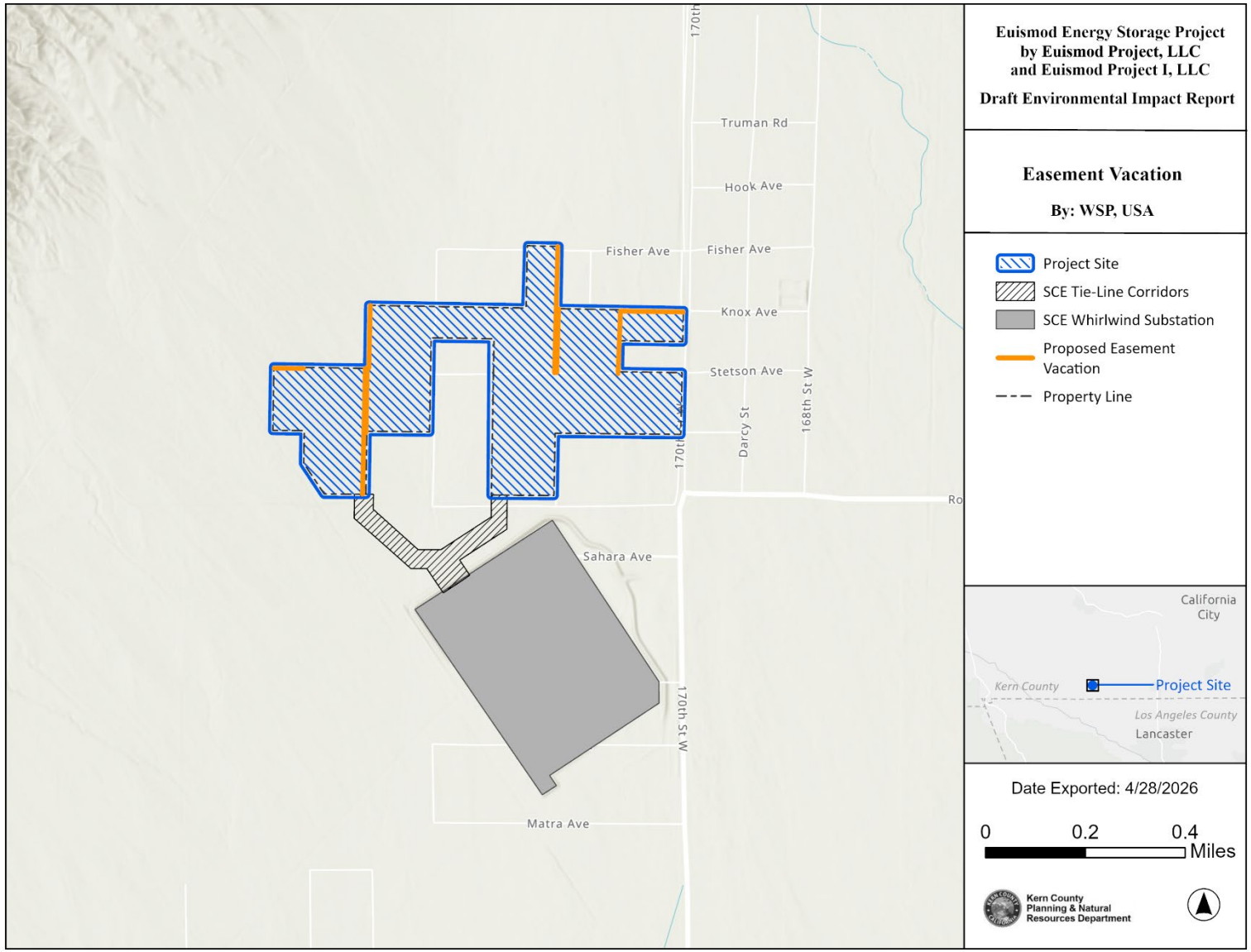


Table 3-1: ASSESSOR PARCEL NUMBER, EXISTING SPECIFIC PLAN DESIGNATIONS, EXISTING ZONING CLASSIFICATIONS, PROPOSED ZONING CLASSIFICATIONS, ZONE VARIANCE REQUIRED, AND ACREAGES

APN	Willow Springs Specific Plan Map Code Designations	Existing Kern County Zoning Classifications	Proposed Zoning Classifications	Zone Variance Required	Acreages
CUP No. 18, Map 233 (South BESS Area)					
261-104-10[a]	4.1 & 5.6	E (2 ½) RS E (2 ½) RS FPS	A A FPS	No	40.19
			Total Acreages for CUP No. 18 Boundary:		**40.19**
CUP No. 19, Map 233 (North & West BESS Areas)					
261-103-17	4.1 & 5.7	E (5) RS	A	Yes	19.51
261-103-20[a]	4.1 & 5.7	E (5) RS	A	Yes	10.14
261-103-21	4.1 & 5.75	E (10) RS	A	Yes	10.14
261-103-29	4.1 & 5.7	E (5) RS	A	Yes	5.10
261-104-13	4.1 & 5.75	A WE	A WE	No	5.07
261-104-16	4.1 & 5.75	E (10) RS	A	Yes	15.14
261-104-19	4.1 & 5.8	E (20) RS FPS	A FPS	Yes	5.01
261-104-20	4.1 & 5.8	E (10) RS E (20) RS FPS	A A FPS	Yes	5.02
261-104-21	4.1 & 5.75	E (10) RS	A	Yes	5.03
			Total Acreages for CUP No. 19 Boundary:		**80.16**
			Total Acreages for Project:		**120.35**
Existing SCE Whirlwind Substation[b]					
261-131-04	4.1 & 5.6	E (2 ½) RS	N/A	N/A	
261-131-05	4.1 & 5.6	E (2 ½) RS	N/A	N/A	
261-132-01	4.1 & 5.6	E (2 ½) RS	N/A	N/A	6.4
261-132-06	4.1 & 5.6	E (2 ½) RS	N/A	N/A	
261-132-12	4.1 & 5.6	E (2 ½) RS	N/A	N/A	
			Total Acreage for Existing SCE Whirlwind Substation[b]:		**6.4**

Note:

[a] A parcel that has an individual/separate CUP for a microwave tower

[b] Included in the study area for tie-lines to SCE Whirlwind Substation, but not part of CUP acreage

Key: BESS = battery energy storage system; CUP = Conditional Use Permit; N/A = not applicable; No. = Number; SCE = Southern California Edison

Specific Plan Designations

3.3 (Other Facilities); 5.6 (Residential—Minimum 2.5 Gross Acres); 5.7 (Residential—Minimum 5 Gross Acres); 5.75 (Residential—Minimum 10 Gross Acres); 5.8 (Residential—Minimum 20 Gross Acres).

Zoning Classifications

A (Exclusive Agriculture); A WE (Exclusive Agriculture, Wind Energy Combining); A FPS (Exclusive Agriculture, Floodplain Secondary Combining); E (2 ½) RS (Estate 2.5 acres, Residential Suburban Combining); E (2 ½) RS FPS (Estate 2.5 acres, Residential Suburban Combining, Floodplain Secondary Combining); E (5) RS (Estate 5 acres, Residential Suburban

Combining); E (10) RS (Estate 10 acres, Residential Suburban Combining); and E (20) RS FPS (Estate 20 acres, Residential Suburban Combining, Floodplain Secondary Combining).

The project site is located within unincorporated Kern County and is subject to both the provisions of the Kern County General Plan (KCGP), Willow Springs Specific Plan, and Kern County Zoning Ordinance. **Table 3-2,** *Project Site and Surrounding Land Uses*, summarizes existing land use of the project site and surrounding areas.

TABLE 3-2: PROJECT SITE AND SURROUNDING LAND USES

Location	Existing Land Use	Existing General Plan Map Code Designation	Existing Zoning Classification
Project Site	Undeveloped/vacant land; transmission and communications infrastructure	4.1, 5.6, 5.7, 5.75, and 5.8	E (2 ½) RS, E (2 ½) RS FPS, E (5) RS, E (10) RS, E (20) RS FPS and A WE
North	Undeveloped/vacant land; transmission and communications infrastructure; wind turbines	4.1, 5.75 and 5.8	E (10) RS, E (20) RS FPS, A WE and A WE FPS
East	Undeveloped/vacant land; sparse rural residences	4.1, 5.5, 5.6 and 5.8	E (20) RS FPS and E (2 ½) RS FPS
South	Whirlwind Substation; transmission and communications infrastructure; undeveloped/vacant land; solar energy developments; agriculture	3.3, 4.1, 5.6, 5.7 and 6.2	E (2 ½) RS and E (2 ½) RS FPS
West	Undeveloped/vacant land; transmission infrastructure; proposed Keyhole Wind Project	3.3, 4.1, 5.7 and 8.5	E (5) RS, E (10) RS, A and A GH

Kern County General Plan Map Code Designation:
3.3 (Other Facilities)
4.1 (Accepted County Plan Areas)
5.6 (Minimum 2.5 Gross Acres/Unit)
5.7 (Minimum 5 Gross Acres/Unit)
5.75 (Minimum 10 Gross Acres/Unit)
5.8 (Minimum 20 Gross Acres/Unit)
6.2 (General Commercial)

Kern County Zoning District:
A WE (Exclusive Agriculture, Wind Combining District)
A WE FPS (Exclusive Agriculture, Wind Combining District, Floodplain Secondary Combining District)
A GE (Exclusive Agriculture, Geologic Hazard Combining District)
E (2½) RS (Estate 2.5 Acres, Residential Combining District)
E (2½) RS FPS (Estate 2.5 Acres, Residential Combining District, Floodplain Secondary Combining District)
E (5) RS (Estate 5 Acres, Residential Combining District)
E (10) RS (Estate 10 Acres, Residential Combining District)
E (20) RS FPS (Estate 20 Acres, Residential Combining District, Floodplain Secondary Combining District)

3.3 Project Objectives

The California Environmental Quality Act (CEQA) Guidelines Section 15124(b) requires that a project description for an EIR includes a clearly written statement of objectives. The statement of objectives should include the underlying purpose of the project and may discuss the project benefits. The following are the project proponent's submitted project objectives for the project:

- **Objective 1** – Establish a reliable, economically feasible, and commercially financeable energy storage facility of sufficient size to substantially contribute to State goals for storage capacity.
- **Objective 2** – Provide Kern County, the State of California, and SCE, with storage capacity that would assist in meeting obligations under California's Renewable Portfolio Standard Program. To achieve California's 2045 clean energy targets, the Public Utilities Commission has identified a need for 52 gigawatts of energy storage capacity.
- **Objective 3** – Use proven and established energy storage technology that is efficient with low maintenance requirements.
- **Objective 4** – Minimize the need for new infrastructure to connect the storage capacity to the grid.
- **Objective 5** – Site and design the project in an environmentally responsible manner.
- **Objective 6** – Locate the storage capacity close to an abundant source of renewable energy to optimize transmission efficiency.
- **Objective 7** – Utilize land that is commercially viable to secure.
- **Objective 8** – Develop an energy storage facility in Kern County that would support the economy by investing in the local community, providing green jobs to the County and California, and increase tax and fee revenue to the County.

3.4 Environmental Setting

The project site is mostly undeveloped, except for high-voltage transmission infrastructure, communications infrastructure, and unpaved roads within the Mojave Desert region of southeastern Kern County, California. The easternmost parcel of the West BESS area has existing utility easements, making it infeasible for BESS equipment. Therefore, improvements on this parcel would be limited to a driveway/fire lane and associated stormwater drainage controls.

The project site and surrounding areas are primarily characterized as creosote bush scrub and are interspersed with existing solar and wind energy generation facilities, communications infrastructure, agricultural, and sparse residential land uses. The project is located in a low-population-density area, with only a few residences in the immediate vicinity. The nearest sensitive receptors are located approximately 0.13 miles to 0.23 miles northeast of the closest approach to the project boundary. Nearby renewable energy developments include the SCE Whirlwind Substation, Pacific Wind Energy Project, Kingbird Solar, Antelope Valley Solar, Keyhole Wind Energy Project, and the PdV Wind Project.

The project site has relatively flat, featureless terrain, with elevations ranging from 2,764 to 2,827 feet above mean sea level. Soils at the project site are mapped as alluvium, and a geotechnical investigation encountered loose to medium dense sand and silt with minor fine gravel extending to the maximum depth explored (41.5 feet). The nearest active fault is the Garlock Fault at approximately 9.1 miles to the northwest

at its closest; the San Andreas Fault Zone is located approximately 11.3 miles to the southwest of the project site.

The easternmost part of the project site is designated as Flood Zone "A," which is a Federal Emergency Management Agency-designated flood zone, indicating that the area could flood during a 100-year flood event. The project is designed for the BESS facility to be exclusively outside this flood zone to the west, and in Flood Zone "X," which indicates areas of minimal flood hazard. There are no jurisdictional wetlands on the project site, but there are ephemeral drainages that are subject to the jurisdiction of the Regional Water Quality Control Board and the California Department of Fish and Wildlife.

Although no farming has been known to occur on the project site for at least the past 10 years, aerial imagery dating back to 2014, as well as other site observations, indicate that grazing activities may have occurred (**Appendix C1**). The project site is not designated by the California Department of Conservation as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Additionally, it is not within the boundaries of the Kern County Agriculture Preserve, and the project site is not subject to a Williamson Act Land Use Contract.

The project site is not within a mineral recovery area or within a designated mineral and petroleum resource site designated by the KCGP, nor is it identified as a mineral resource zone by the Department of Conservation's State Mining and Geology Board. The project site is not located within the County's Natural Resources or Petroleum Extraction Zone Districts. Based on a review of records maintained by the California Department of Conservation/California Department of Conservation Geologic Energy Management Division, there are no oil wells identified on-site.

The project would be served by the Kern County Sheriff's Office for law enforcement and public safety, the Kern County Fire Department (KCFD) for fire protection, and the Kern County Medical Emergency Service for emergency medical and rescue services. The nearest Kern County Sheriff's Office substation and KCFD fire station (Station No. 15) that would serve the project are both located in the community of Rosamond. The nearest hospitals are the Adventist Health Tehachapi Valley in the City of Tehachapi and the Antelope Valley Medical Center in the City of Lancaster, approximately 19.5 miles and 19.8 miles, respectively, from the project site. The nearest schools to the project site are located in the unincorporated community of Rosamond, with the closest being Tropico Middle, located approximately 12 miles east of the project site.

No portion of the project is located within an area governed by the Kern County Airport Land Use Compatibility Plan. The closest airport is the Rosamond Skypark, a private landing strip located approximately 12 miles east of the project site.

3.5 Land Use and Zoning

The project site is governed by the KCGP. Additionally, the site and adjacent lands are within the Willow Springs Specific Plan. The entire project is subject to the provisions of the Kern County Zoning Ordinance.

Kern County General Plan and Willow Springs Specific Plan

The project site is located within unincorporated Kern County and the boundaries of the KCGP and Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in March 1992 and amended in 2008 as part of the Land Use, Open Space, and Conservation Element of the KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. As shown in **Figure 3-4,** *Existing General Plan Map*, and listed in **Table 3-1,** *Assessor*

Parcel Number, Existing Specific Plan Designations, Existing Zoning Classifications, Proposed Zoning Classifications, Zone Variance Required, and Acreages, the project site has the following General and Specific Plan land use designations:

- **3.3 (Other Facilities):** Applies to existing facilities used for public or semi-public services. Permitted uses include, but are not limited to, airports, sewer farms, treatment plants, and water spreading areas.
- **4.1 (Accepted County Plan Areas)**: A designation of areas for which specific land use plans have already been prepared and approved. These plans are accepted and incorporated by this reference, and the respective land use map associated with each such plan is hereby adopted as the General Plan diagram for each such area. Each plan area is indicated on the General Plan map. See Appendix A of the KCGP for details of accepted County plans.
- **5.6 (Minimum 2.5 Gross Acres/Unit):** This constitutes a single-family designation with rural service needs in the valley and desert regions, while in the mountain region residential uses of this density will require urban service provision.
- **5.7 (Minimum 5 Gross Acres/Unit):** Designated in the outlying, less densely settled areas, often characterized with physical constraints and not requiring connections to public water and sewer infrastructure.
- **5.75 (Minimum 10 Gross Acres/Unit):** Designated in the outlying, less densely settled areas, often characterized by areas with physical constraints and not requiring connections to public water and sewer infrastructure.
- **5.8 (Minimum 20 Gross Acres/Unit):** Designated in the outlying, less densely settled areas, often characterized by physical constraints and not requiring connections to public water and sewer infrastructure.

Kern County Zoning Ordinance

The project is subject to the provisions of the Kern County Zoning Ordinance and spans Zone Map 233. The project site consists of the following zoning districts: A (Exclusive Agriculture) and E (Estate). Many project parcels also contain one or more of the following combining districts: Floodplain Secondary (FPS), Wind Energy (WE), and Residential Suburban (RS). The existing and proposed zoning designations are specified in **Table 3-1,** *Assessor Parcel Number, Existing Specific Plan Designations, Existing Zoning Classifications, Proposed Zoning Classifications, Zone Variance Required, and Acreages,* and depicted in **Figure 3-5,** *Existing Zone Classifications*, and **Figure 3-6,** *Proposed Zone Classifications*.

The project site would be rezoned to A (excluding some combining zone districts), with the exception of those parcels that are already in the A Zone District. The purpose of the A District is to designate areas suitable for agricultural uses and to prevent the encroachment of incompatible uses onto agricultural lands and the premature conversion of such lands to nonagricultural uses. Uses in the A District are limited primarily to agricultural uses and other activities compatible with agricultural uses.

According to the Kern County Zoning Ordinance Section 19.12.030, there is a list of allowable uses within the A District, which includes other uses that are similar in nature, subject to obtaining a CUP. Specifically, Section 19.12.030 G provides for resource extraction and energy development uses within the A District.

3.6 Project Description

The project would include the construction, operation, maintenance, and eventual decommissioning of an approximately 9,200 MWh capacity BESS to store electricity from the regional grid, to be supplied back as needed, on an approximately 120.35-acre project site in the unincorporated area of southeastern Kern County, California. The project would interconnect to the SCE Whirlwind Substation, as shown in **Figure 3-8,** *Proposed Site Plan*.

Infrastructure associated with the project would include battery energy storage arrays, collector substations, SCADA systems, microwave communications towers, operation and maintenance support buildings, climate-controlled permanent storage containers, an incident command post, on-site power infrastructure, on-site water infrastructure, roads and improved surfaces, two 220-kV overhead tie-lines to the SCE Whirlwind Substation located on the adjacent parcels to the south of the project site, and a temporary laydown yard.

The SCE components of the project would include the two overhead tie-lines from the two POCOs located on the project site to the proposed dead-end structures within the existing Whirlwind Substation, and interconnection of the tie-lines to the existing substation facilities. The tie-lines would consist of single- or double-circuit overhead conductor cables and static wires; redundant fiber-optic communication lines that could be overhead, underground, or both; and steel pole or tower support structures. SCE work inside the existing Whirlwind Substation fenceline installation would include two dead-end structures for the tie-lines, along with a new line position and switchrack position for each of the tie-lines, as further described in *SCE Tie-Line and Substation Improvements*. SCE would be responsible for the project's proposed interconnection infrastructure at the existing Whirlwind Substation as well as the tie-lines connecting the substation to the project site to accommodate the interconnection. The above-mentioned infrastructure components are considered part of the project and are described in further detail in **Section 3.7**, *Project Characteristics*.

Figure 3-4: Existing General Plan Map

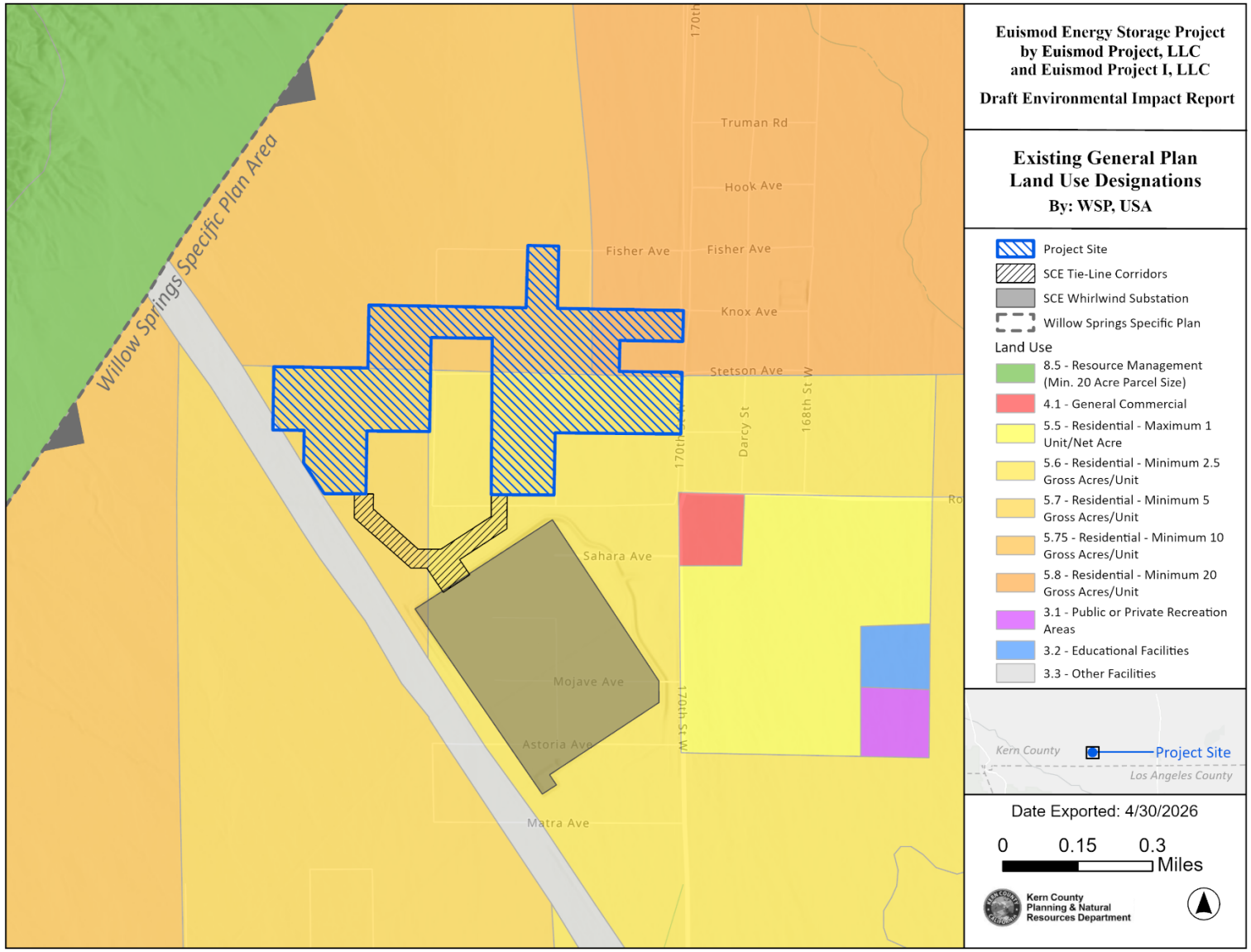


Figure 3-5: Existing Zone Classifications

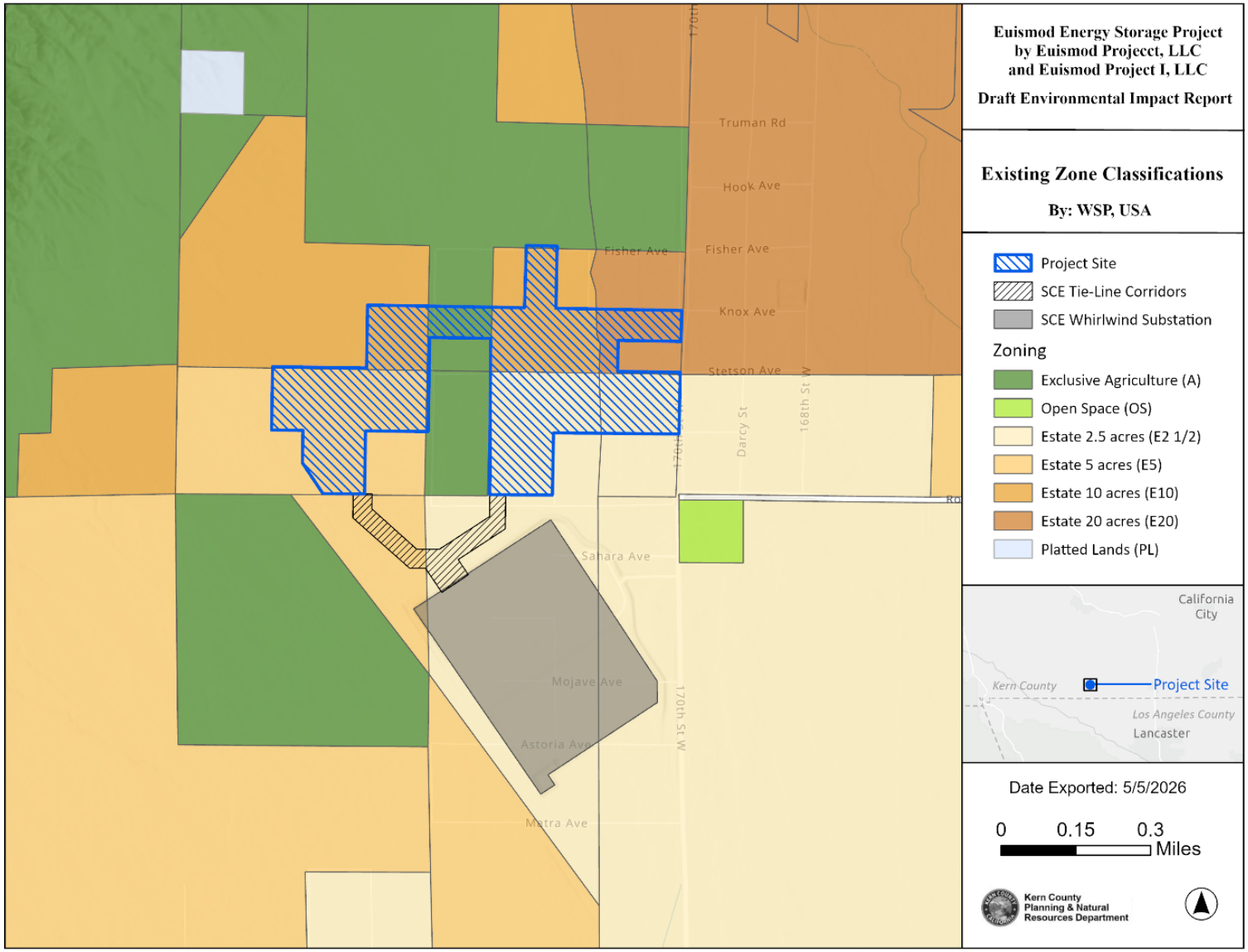
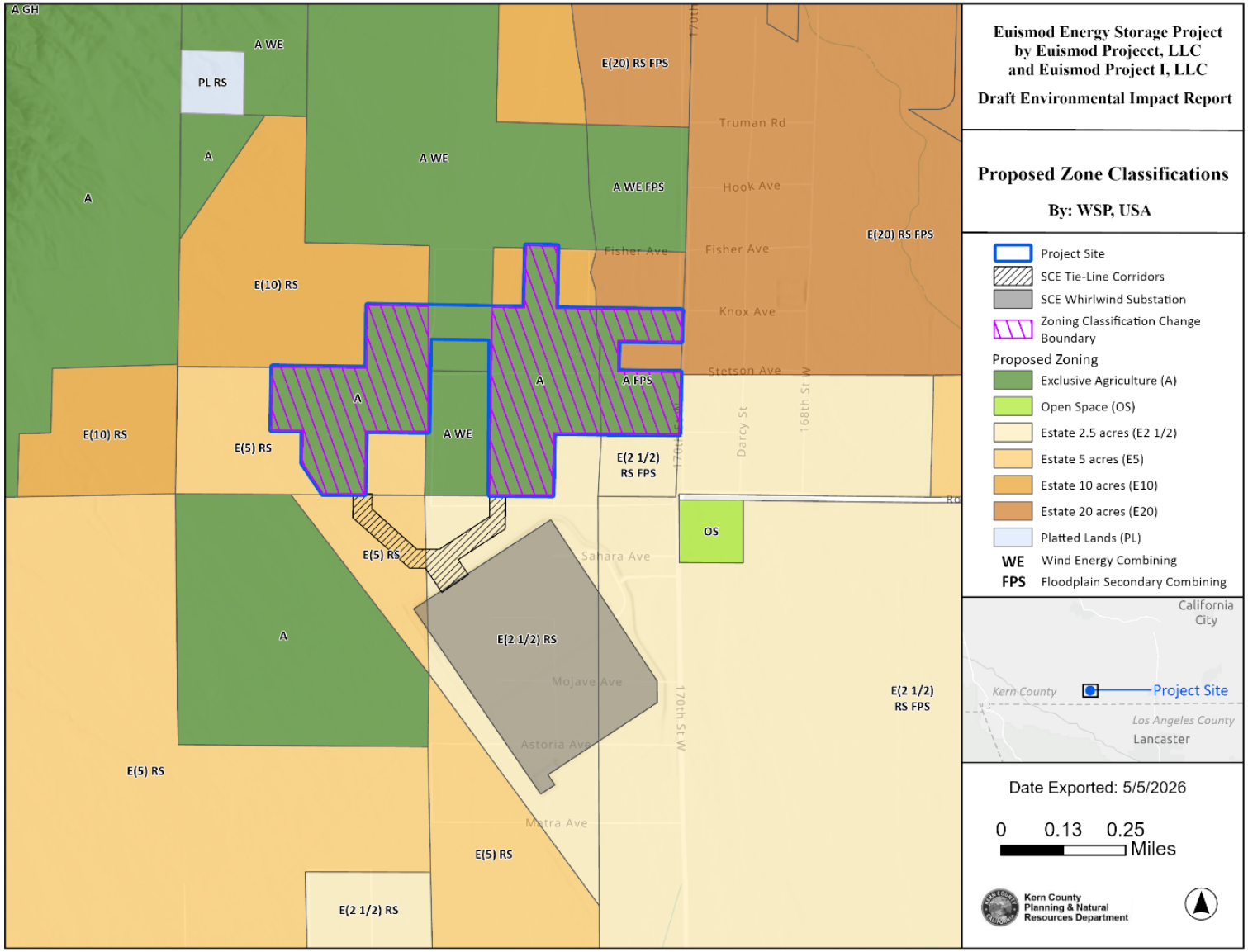


Figure 3-6: Proposed Zone Classifications



Implementation of the project as proposed includes the following requests, as also shown on **Figure 3-7,** *Project CUP Boundary*.

(a) Zone Change Case (ZCC No. 20, Map 233) to change zoning from E (2 ½) RS (Estate, 2.5 acres, Residential Suburban Combining), E (5) RS (Estate 5 acres, Residential Suburban Combining), E (10) RS (Estate 10 acres, Residential Suburban Combining), and E (20) RS (Estate 20 acres, Residential Suburban Combining) to A (Exclusive Agriculture) on approximately 115.29 acres.

(b) Conditional Use Permit (CUP No. 18, Map 233) to allow for the construction and operation of a BESS facility with the associated infrastructure on approximately 40.19 acres in the A (Exclusive Agriculture) Zone District pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance.

(c) Conditional Use Permit (CUP No. 19, Map 233) to allow for the construction and operation of a BESS facility with the associated infrastructure on approximately 80.16 acres in the A (Exclusive Agriculture) Zone District pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance.

(d) Conditional Use Permit (CUP No. 20, Map 233) to allow for a microwave communications tower on approximately 0.23 acres in the A (Exclusive Agriculture) Zone District pursuant to Section 19.12.030.F of the Kern County Zoning Ordinance.

(e) Conditional Use Permit (CUP No. 21, Map 233) to allow for a microwave communications tower on approximately 0.21 acres in the A (Exclusive Agriculture) Zone District pursuant to Section 19.12.030.F of the Kern County Zoning Ordinance.

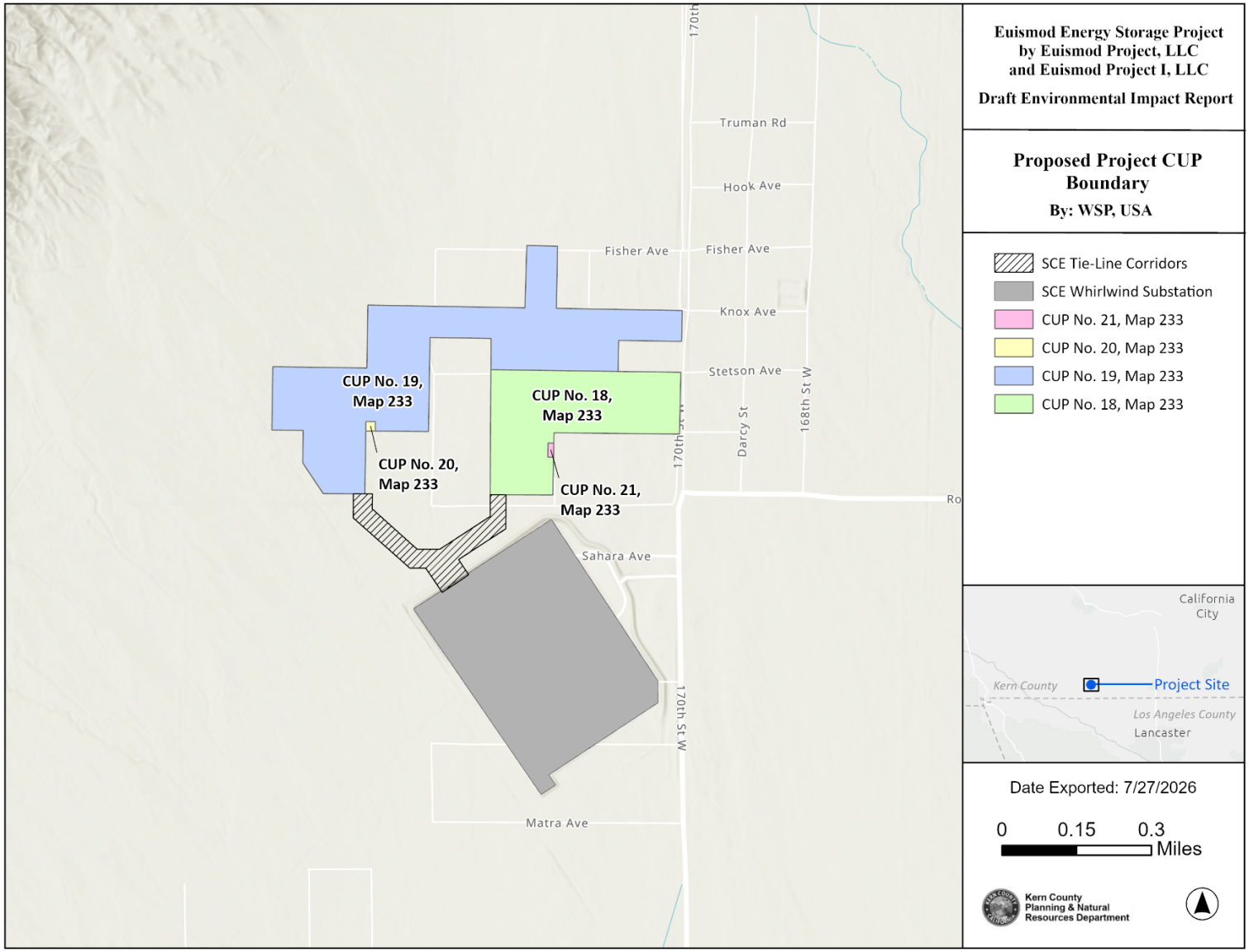
(f) Zone Variance (ZV) (ZV No. 10, Map 233) to authorize multiple parcels of substandard size where a minimum of 20 acres is required for a change in base zoning from E (2 1/2) RS (Estate 2.5 acres, Residential Suburban Combining), E (5) RS (Estate 5 acres, Residential Suburban Combining), E (10) RS (Estate 10 acres, Residential Suburban Combining), and E (20) RS (Estate 20 acres, Residential Suburban Combining) to the A (Exclusive Agriculture) Zone District on approximately 75.10 acres.

(g) Non-summary Vacations to eliminate public access easements within Section 14, Township 9 North, Range 15 West of the San Bernardino Baseline and Meridian in Zone Map 233.

As previously identified, the County is processing two separate CUPs for the construction and operation of the BESS facility because the project has two project proponents. The Euismod Project LLC is the project proponent under CUP No. 18, Map 233, which is also depicted as the designated South BESS area. The Euismod Project I LLC is the project proponent under CUP No. 19, Map 233, which is also depicted as both the designated North and West BESS areas.

At the end of the project's anticipated operational life of up to 35 years, the project proponents would determine at that time whether the project should be decommissioned and deconstructed or if the project proponents would seek an extension of the project's operation and the appropriate permitting pathways. If any portion of the project site is decommissioned, all BESS structures would be removed to facilitate conversion of the project site to other uses in accordance with the applicable land use regulations in effect at that time.

Figure 3-7: Project CUP Boundary



3.7 Project Characteristics

The project facilities would include the following components, which are described in greater detail below and shown in **Figure 3-8,** *Proposed Site Plan*:

- BESS Areas;
- Battery Energy Storage Arrays;
- Collector Substations;
- SCADA;
- Microwave Communication Towers;
- Operation and Maintenance Buildings;
- Storage Containers;
- Site Power Infrastructure;
- Water Infrastructure;
- Site Control and Security Infrastructure;
- Roads, Drainage, and Improved Surfaces;
- SCE Tie-Line and Whirlwind Substation Improvements;
- Temporary Laydown Yard; and
- Incident Command Center

Battery Energy Storage System Areas

As previously identified, the project proponent for the South BESS area under CUP No. 18, Map 233, is Euismod Project LLC. The designated South BESS area would occupy an approximately 40.19-acre parcel and would include battery energy storage arrays, SCADA systems, a microwave communication tower, an operation and maintenance building, climate-controlled storage containers, site power infrastructure, site water infrastructure, site control and security infrastructure, roads and improved surfaces, and a temporary laydown yard. The South BESS area also includes one of two optional locations considered for use as an incident command post. The final location(s) would be determined in conjunction with KCFD's design review. The storage capacity for the designated South BESS area would be 400 megawatts (MW) for 8 hours (3.2 gigawatt-hours). The tie-line from the collector substation in the North BESS area would traverse the South BESS area, supported by three on-site poles, further described in *Collector Substations*.

The project proponent for the North and West BESS areas under CUP No. 19, Map 233, is Euismod Project I LLC. The designated North BESS area would include battery energy storage arrays, a collector substation, SCADA systems, an operation and maintenance building, climate-controlled storage containers, site power infrastructure, site water infrastructure, site control and security infrastructure, roads, and improved surfaces, spanning across four parcels totaling approximately 30.21 acres. The North BESS area also includes one of two optional locations considered for use as an incident command post. The final location(s)

would be determined in conjunction with KRFD's design review. The storage capacity for the designated North BESS area would be 300 MW for 8 hours (2.4 gigawatt-hours).

The designated West BESS area would include battery energy storage arrays, a collector substation, SCADA systems, a microwave communication tower, an operation and maintenance building, storage containers, site power infrastructure, site water infrastructure, site control and security infrastructure, roads, and improved surfaces spanning across five parcels, totaling approximately 49.95 acres. The storage capacity for the designated West BESS area would be 450 MW for 8 hours (3.6 gigawatt-hours).

All facilities would be designed in accordance with all applicable codes and regulatory standards in effect at the time of application.

Battery Energy Storage Arrays

As shown in **Figure 3-8,** *Proposed Site Plan*, the project would consist primarily of outdoor battery energy storage enclosures and associated electrical equipment arranged in arrays that have paved driveways/fire lanes throughout. Battery enclosures would be purpose-built, free-standing structures approximately 12 feet or less in height. The arrays would also include bidirectional medium voltage (MV) transformers within purpose-built enclosures, voltage converters, and underground cables that connect the MV transformers to the collector substations. Battery enclosures would be spaced in accordance with National Fire Protection Association (NFPA) Standard 855 requirements, KCFD requirements, and manufacturer specifications, and would be set back a minimum of 50 feet from property lines. Example battery and transformer enclosures are provided in **Figure 3-10,** *Electrical Details*.

The project would comply with comprehensive requirements to ensure the safe installation and operation of equipment. Battery modules and enclosures would be inspected and tested at the manufacturer's facility and again upon delivery to the project site. Once installed, tested, and in operational mode, each battery module would be continuously monitored for electrical current, voltage, and temperature to optimize performance and mitigate potential failures. Batteries performing out of specification would be immediately taken offline by the automated monitoring system. The system would be designed and constructed to comply with all applicable codes in effect in the County, including NFPA Standards, National Electrical Code, and California Fire Code. This includes, but is not limited to, NFPA 855, NFPA 68, NFPA 69, NFPA 72, NFPA 2001, NFPA 13, NFPA 22, NFPA 24, NFPA 25, and NFPA 10.

NFPA 855 establishes safety standards designed specifically to reduce risks for BESS facilities. Battery enclosures would be equipped with fire prevention, detection, and isolation methods and materials, including smoke and fire detection sensors, ground fault detection systems, alarms, and automatic shutdown capabilities. Enclosures would be located at least 50 feet from project boundaries and spaced in accordance with NFPA 855 requirements to minimize the potential for fire propagation between units. NFPA 855 also requires project-specific safety planning documents to be approved by KCFD, including bench-scale fire and explosion testing, a Hazard Mitigation Analysis, and an Emergency Response Plan. The Emergency Response Plan would also comply with Senate Bill (SB) 38. These materials would be submitted to KCFD once the specific equipment is selected and before issuance of building permits. In addition, NFPA 855 requires initial and annual refresher training for project personnel, and the project proponents would coordinate with KCFD to provide site-specific training for emergency responders.

Collector Substations

The North and West BESS areas would each have an on-site collector substation with three bidirectional transformers to convert between MV and high voltage for connection to the electric grid. Each collector substation would include 220- and 34.5-kV bus work, circuit breakers, disconnect switches, instrument transformers, metering transformers, three 220/34.5-kV bidirectional transformers, two auxiliary transformers for station service, a control house with relay protection, a SCADA system, and a telemetry system.

Most of the on-site substation structures and equipment would be less than 40 feet high. The collector substation in the North BESS area would include an H-frame dead-end structure up to 80 feet high and shield wires spanning from the top over other substation equipment. The tie-line would begin from the H-frame structure within the substation and extend south, spanning across the South BESS area. The tie-line would be supported by three tubular steel structures up to 140 feet high, with the southmost structure being the POCO.

The collector substation in the West BESS area would include a tubular steel pole dead-end structure up to 140 feet high with shield wires spanning from the pole top downward over other substation equipment. The dead-end pole structure would be the POCO for the tie-line from the West BESS area.

From each POCO structure, the tie-lines would extend overhead across the project site boundary onto SCE-owned property located between the project site and the Whirlwind Substation. Collector substation frameworks and transmission line support poles would be galvanized or otherwise finished with a low-reflective finish to minimize visual contrast. The POCO pole structures associated with both interconnections would be located within the project site and owned by the respective project proponent. Meanwhile, SCE would construct, own, and operate the tie-lines that extend from the POCO structures across the project site boundary to the interconnection point at the Whirlwind Substation 220-kV bus.

Supervisory Control and Data Acquisition

Each collector substation would have a SCADA system to aggregate operational information from the BESS, electrical equipment, fire protection systems, and interconnection facilities. The SCADA systems would provide real-time monitoring and communication with the transmission service provider, grid operator, and remote Operations Center, and would enable control of critical site functions, including charge/discharge cycles, breaker status, and facility output.

Microwave Communication Towers

The project would include two microwave communications towers. One tower would be located within the West BESS area, northeast of the substation and immediately west of the detention pond. The second tower would be located in the northwest corner of the South BESS area.

Separate CUPs would be processed for the microwave communications towers. The towers would facilitate remote communications between the project, the California Independent System Operator Corporation, and other outside parties. Antennae would be positioned to ensure an unobstructed line of sight with other microwave communication facilities, enabling reliable transmission of high-capacity data signals. Each tower would include antenna transmission lines, a safety-climbing ladder with fall-arrest systems in conformance with State and County requirements. Chain-link security fencing would be installed around each tower base to prevent unauthorized access. Both towers would be located within the project's

perimeter security fence and would include gravel surfacing and compacted gravel access routes to accommodate maintenance activities.

Operation and Maintenance Buildings

The project would include three operation and maintenance buildings, one within each of the North, South, and West BESS areas. Each building would be approximately 1,200 square feet and include office space, a conference room, a breakroom, and restroom facilities to support project personnel, contractors, and vendors. Parking would be provided adjacent to each building. Preliminary building layouts and elevations are shown in **Figure 3-11,** *Building Floor Plan*, and **Figure 3-12,** *Building Elevations.*

Storage Containers

Up to eight climate-controlled, permanent storage containers would be provided in each designated BESS area for spare parts. These facilities are intended to support ongoing operation and maintenance by ensuring secure and accessible storage of critical components.

Site Power Infrastructure

On-site power for operations would be provided via station service transformers located at the collector substations. The project infrastructure would also include up to four diesel-fired generators to provide backup power for critical functions during outages or other emergency conditions. Two 250 kW diesel-fired generators would be installed at each collector substation, with each generator equipped with an associated 500-gallon fuel tank.

Water and Wastewater Infrastructure

On-site water infrastructure would include water tanks distributed throughout the project site. Each of the North, South, and West BESS areas would include a water tank and co-located groundwater well to provide water for fire protection and operation and maintenance building needs. In addition, a dedicated aboveground fire water tank with a capacity of 10,000 to 30,000 gallons would be located adjacent to the incident command center near 170th Street West.

Final water tank locations and volumes would be determined in consultation with KCFD and designed in accordance with KCFD requirements. Water tanks would include a 4-inch diameter National Standard Male fire department connection, water level indicators, and adequate access for emergency response.

Each operation and maintenance building would be served by a septic system consisting of a septic tank and leach field. In the unforeseen event that a leach field is infeasible or impractical, sanitary waste would be stored in holding tanks and periodically removed from the project site by a licensed waste-hauling contractor.

Site Control and Security Infrastructure

The project site would be closed to public access with secured gates. Paved driveways would provide access from 170th Street West, and signs identifying the BESS facility would be provided at entrance gates. On-site roads, access gates, and fire hydrants would be designed in accordance with the KCFD requirements. Preliminary road, fencing, and gate details are provided in **Figure 3-13,** *Civil Details*. The North and South BESS areas would be surrounded by a common perimeter fence, and the West BESS area would have its own perimeter fence. A Knox rapid access system, which would allow emergency responders access to the

project site gates. Roads would be designed for two-way circulation of on-site traffic, which would be minimal, consisting of visits by the project's employees, contractors, and vendors providing periodic maintenance and monitoring.

Shielded, downward-directed night-lighting would be provided for safety and security. Motion-sensitive cameras and other monitoring equipment may also be installed, with cameras mounted on poles up to 25 feet in height. All lighting would adhere to applicable Kern County Dark Skies Ordinance requirements. A detailed lighting plan would be prepared and approved prior to the issuance of building permits.

Roads, Drainage, and Improved Surfaces

The final finished grade for roadways throughout the developed portion of the project site would be stable, with improved surfaces for on-site fire/drive lanes, concrete footings and slabs, stabilized stormwater control systems, and gravel surfacing encompassing other areas. On-site driveways/fire lanes would be engineered to meet KCFD requirements, including but not limited to compacted subgrade and paved or other durable erosion-resistant surfacing to support response apparatus weighing up to 75,000 pounds.

Stormwater flows would be controlled by run-off diversion ditches, on-site driveways/fire land elevations, shallow rip-rap-lined ditches, and detention and retention basins (**Figure 3-9,** *Proposed Grading Plan*). In addition, the Preliminary Hydrology Study (**Appendix H**) details the drainage design and its conformance with the County's requirements. Drainage on-site would be managed in shallow rip-rap ditches with culverts at road crossings and surface impoundments to control peak flows in accordance with County requirements.

An approximately 3-acre temporary laydown yard, further described in *Temporary Laydown Yard*, would need to be cleared of vegetation for use during construction. Additionally, there would be approximately 2 acres of disturbance around the edges of grading on the project site. This disturbed area would not be re-disturbed once grading is complete and is located outside the project fencelines but within the project boundary. Both the temporary laydown yard and the 2-acre disturbance area would be stabilized with native grasses, as further described in **Section 3.8**, *Construction Activities*.

Figure 3-8: Proposed Site Plan

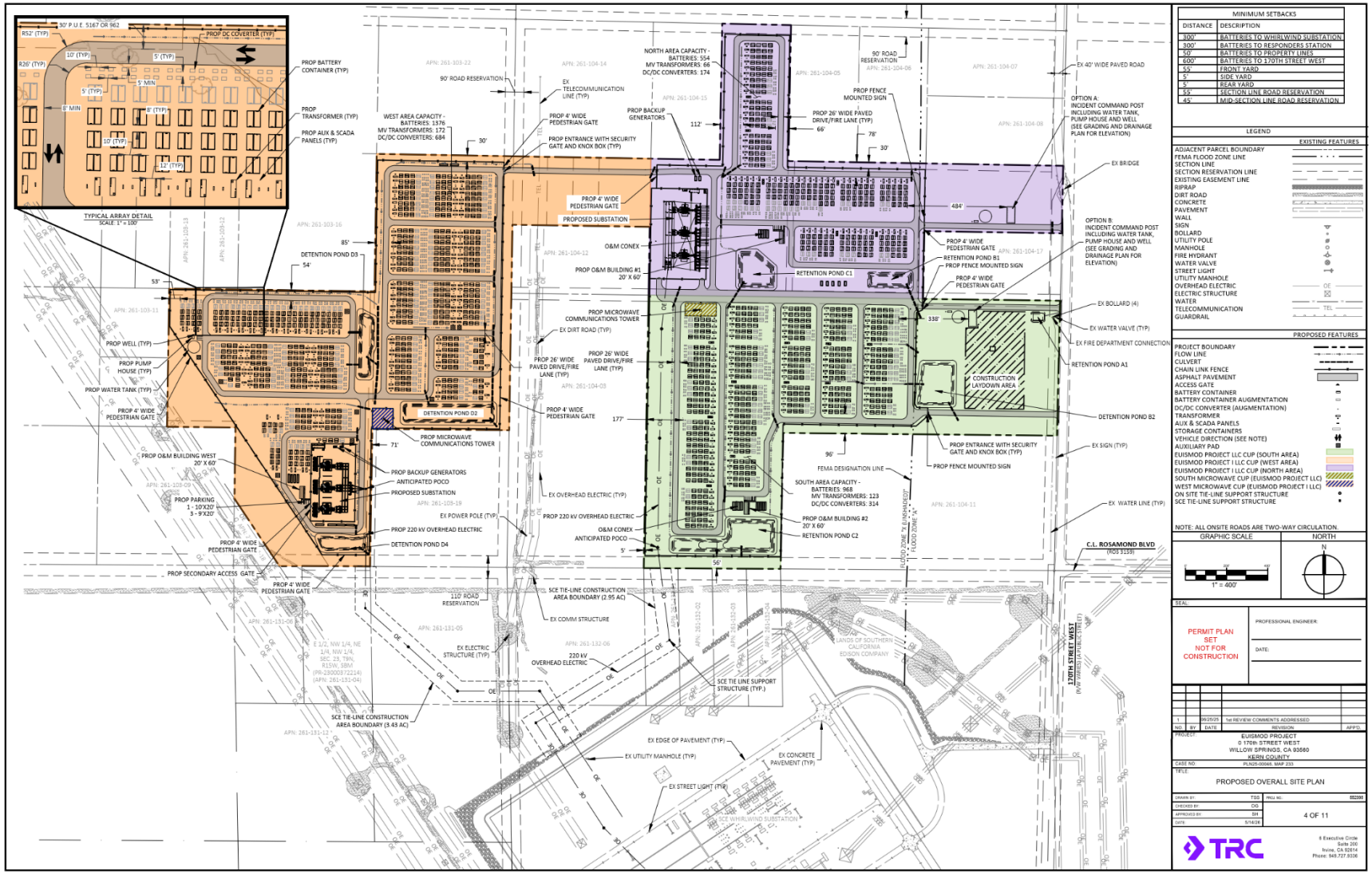


Figure 3-9: Proposed Grading Plan

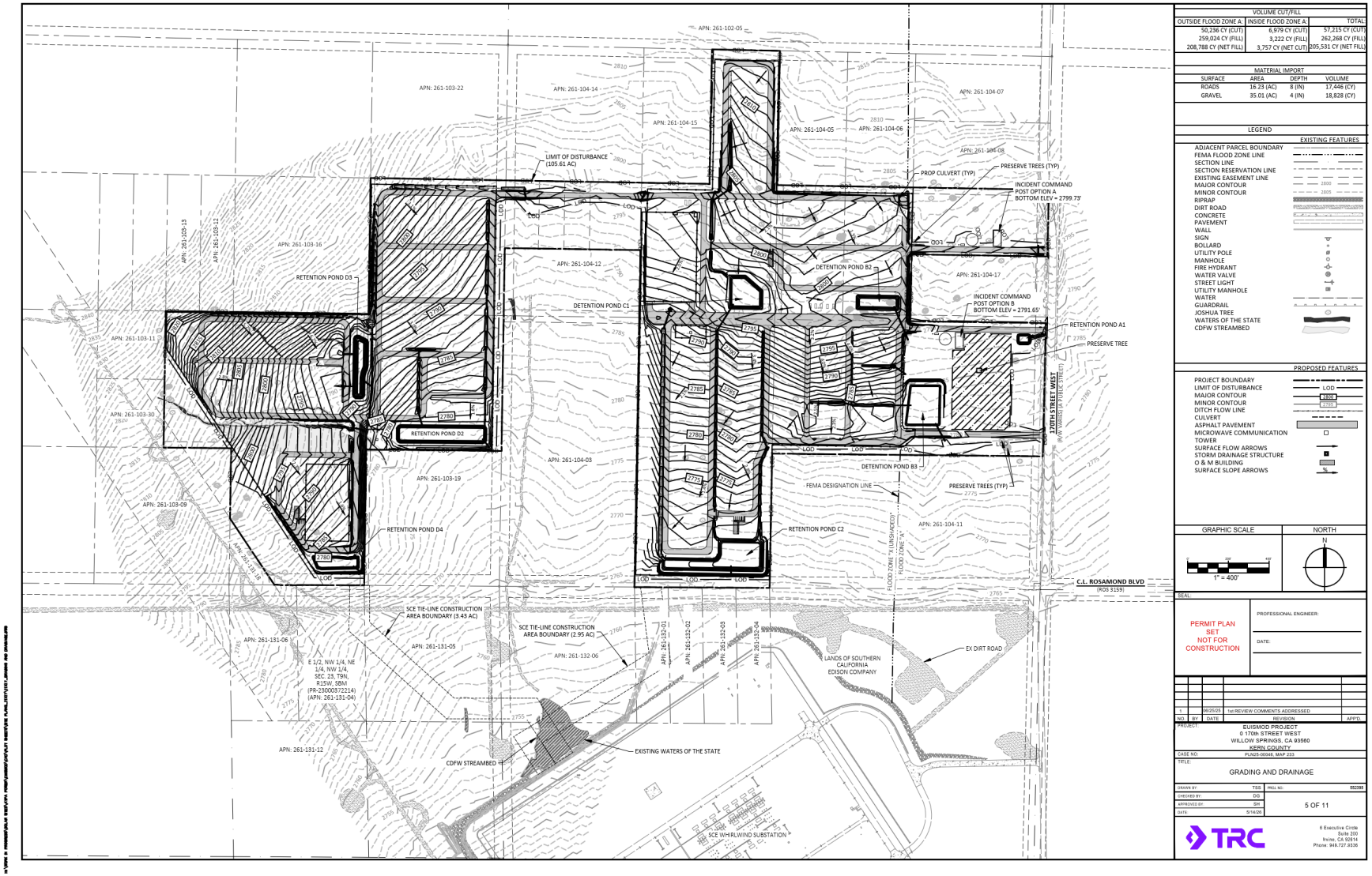


Figure 3-10: Electrical Details

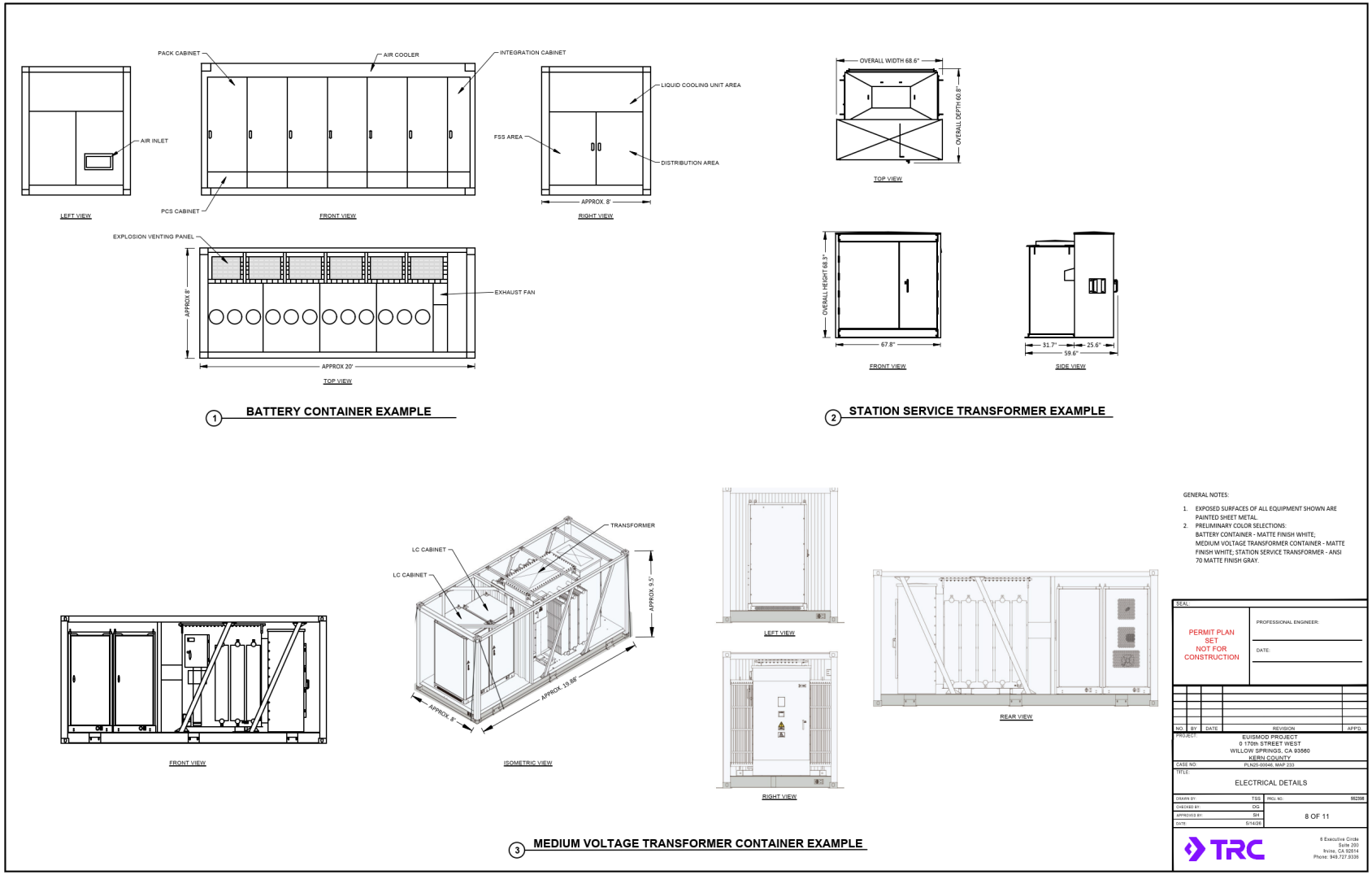


Figure 3-11: Building Floor Plan

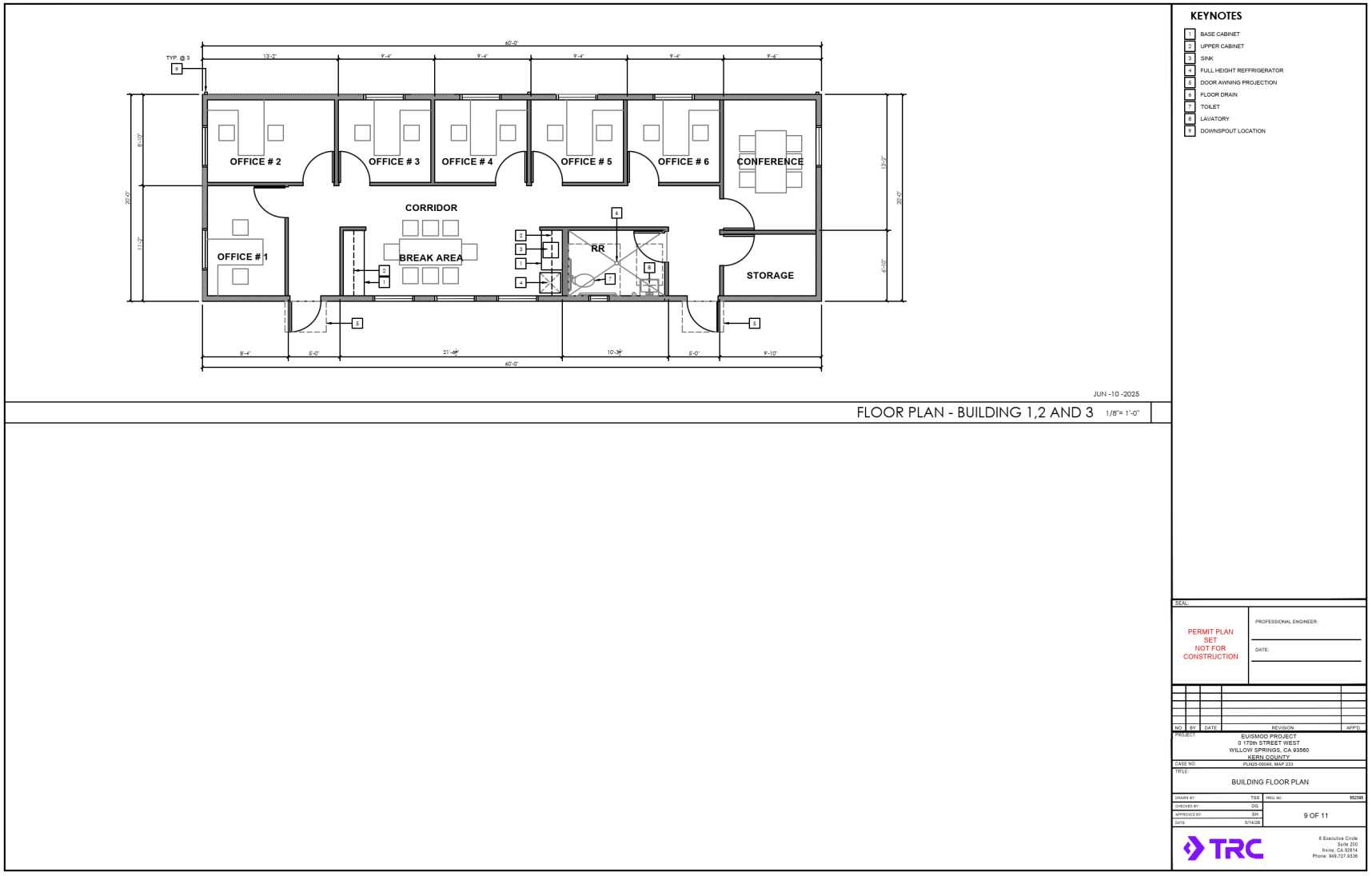


Figure 3-12: Building Elevations

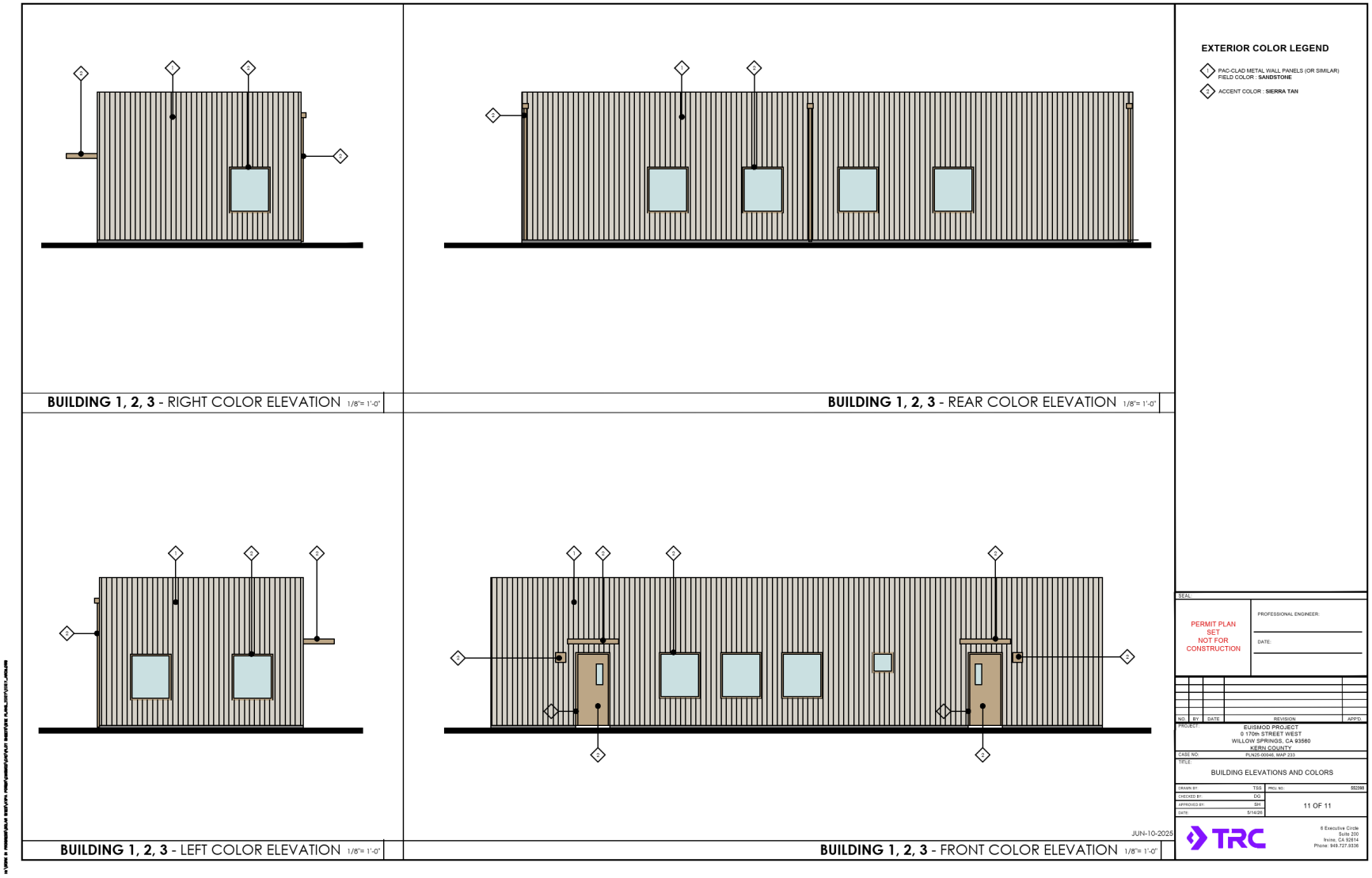


Figure 3-13: Civil Details

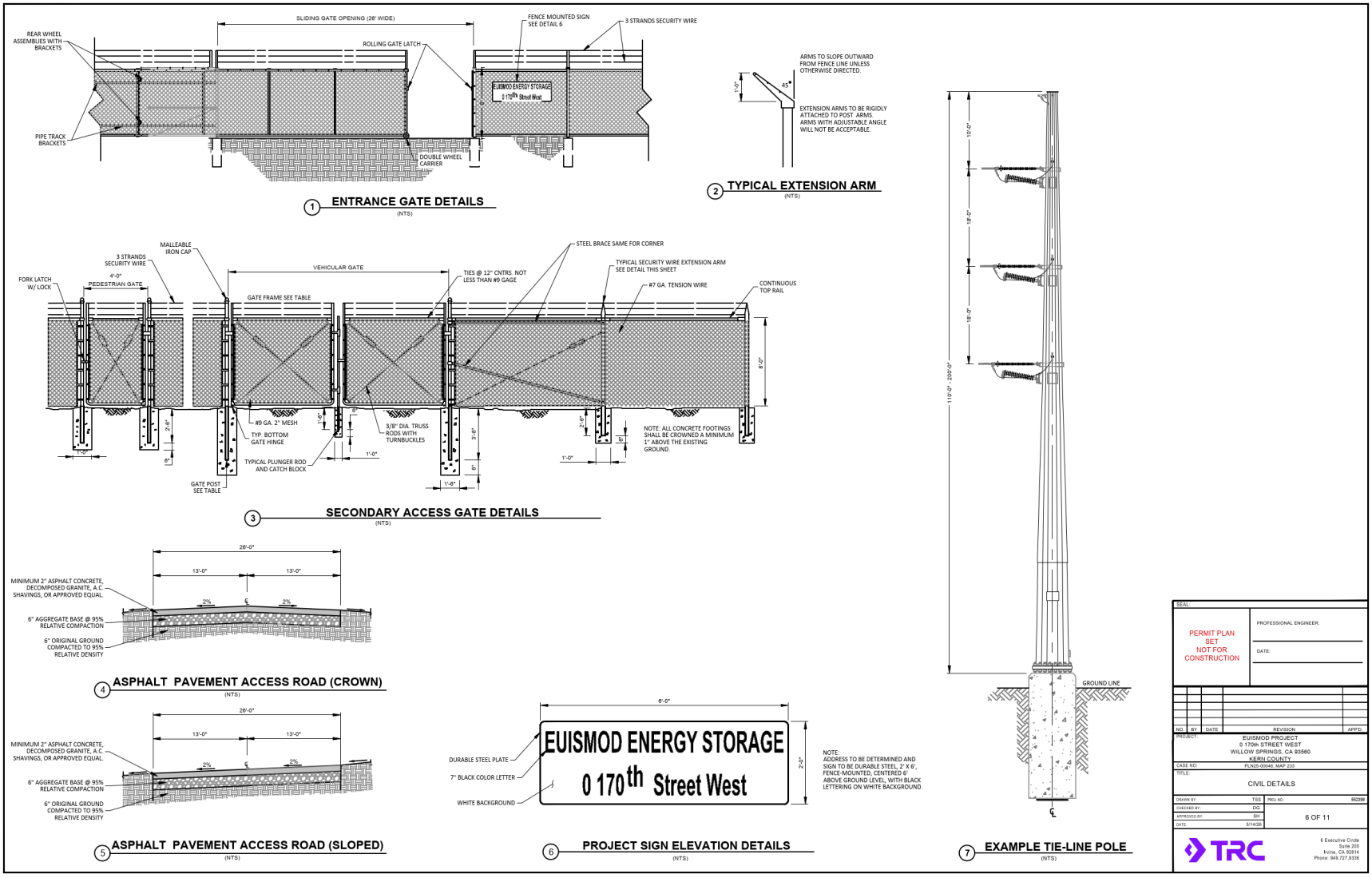
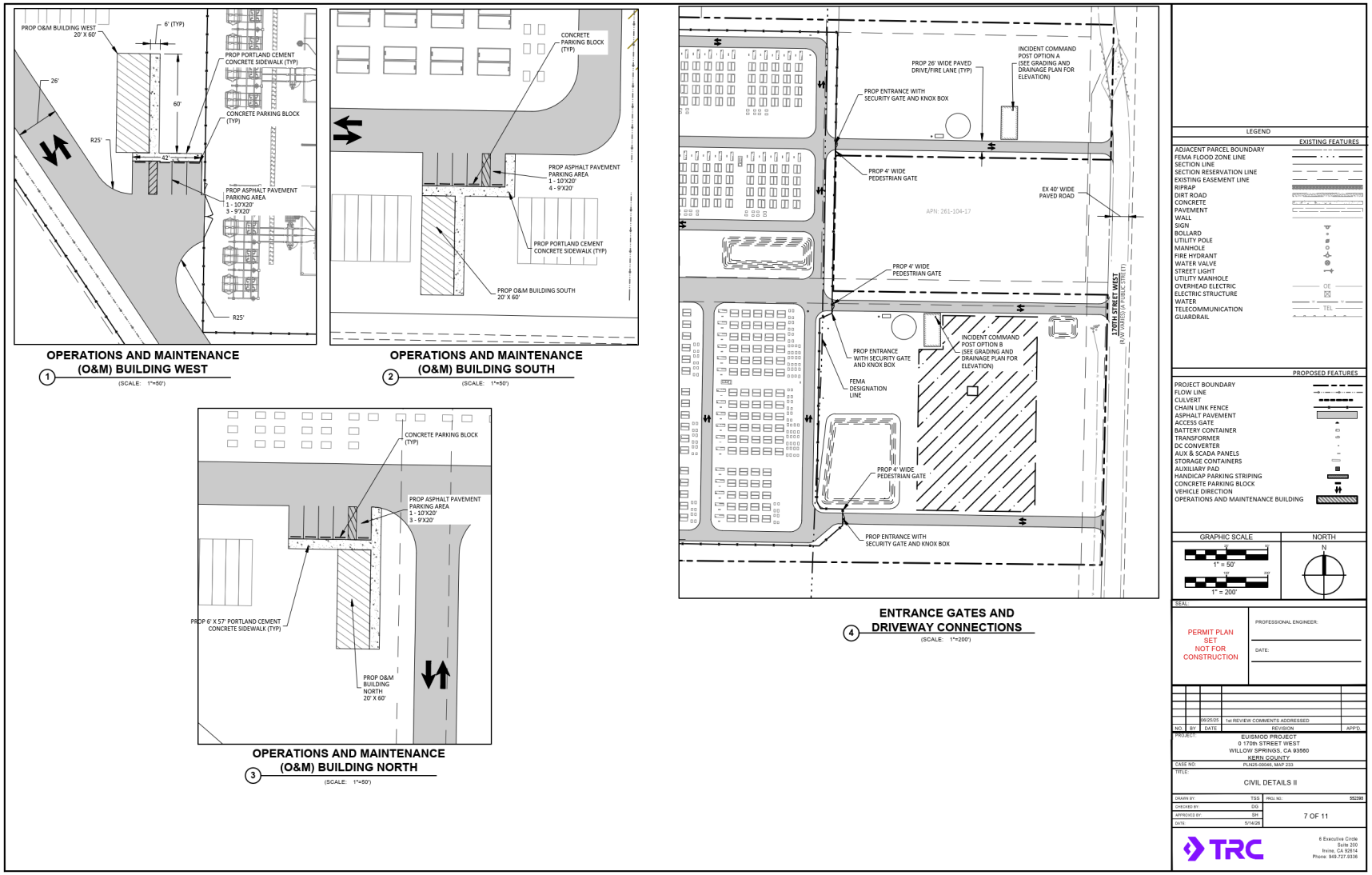


Figure 3-14: Civil Details Continued



SCE Tie-Line and Substation Improvements

SCE is a regulated public utility entity subject to the exclusive jurisdiction of the California Public Utilities Commission (CPUC). As a result, the construction, modification, and operation of SCE's electric transmission facilities are governed by State law and CPUC oversight rather than local discretionary land use authority. Pursuant to CPUC General Order 131-E, local agencies are preempted from imposing discretionary land use approvals on such facilities. However, projects remain subject to environmental review under CEQA.

Based on the scope of the SCE interconnection facilities proposed for the project, as detailed in **Table 3-3**, *Preliminary SCE Interconnection Work Scope Summary*, CPUC authorization is anticipated to be obtained through General Order 131-E by means of an advice letter, rather than a Permit to Construct or Certificate of Public Convenience and Necessity. Consistent with recent CPUC practice, SCE is expected to rely on the General Order 131-E exemption for power line and substation facilities that have undergone CEQA review as part of a larger project. Accordingly, the project's CEQA document must expressly evaluate the environmental impacts of the SCE facilities as part of the overall project, and obtaining CEQA approvals is a prerequisite to CPUC's acceptance and approval of the advice letter.

The project proponents have submitted interconnection requests to the California Independent System Operator Corporation for the project that would interconnect to SCE's Whirlwind Substation. SCE's Whirlwind Substation is located on SCE-owned parcels adjacent to the south of the project site, with the existing Whirlwind Substation footprint located approximately 200 feet south of the project site at closest approach. Parcels adjacent to the Whirlwind Substation are undeveloped except for high-voltage transmission corridors and other utility infrastructure, and unpaved roads. Approximately 0.4 miles to the south and southwest, solar energy generation developments and agricultural developments occur.

To accommodate the requests, SCE proposed to design, construct, own, and operate the tie-lines extending from the respective POCO poles across the project site boundary to the interconnection points at the Whirlwind Substation 220-kV bus. SCE's scope of construction activities is further described herein; however, the description of SCE's anticipated improvements is preliminary and subject to change.

The SCE Whirlwind Substation is accessible from 170th Street West and has an established footprint of approximately 100 acres. The Whirlwind Substation improvements would be completely within the 100-acre established footprint. However, the tie-lines connecting the project site and Whirlwind Substation would be located outside the established footprint, but still on SCE-owned property.

The preliminary SCE design includes the electric tie-lines extending overhead from the two POCOs located in the project boundary in the South BESS and West BESS areas to SCE's Whirlwind Substation. The project would require two tie-lines, each consisting of overhead 220-kV conductors and a ground wire. SCE would either construct the tie-lines as single-circuit (three conductors) or double-circuit (six conductors) with tubular steel poles or towers.

The preliminary design for the tie-line from the North BESS area collector substation includes three steel tower or pole structures approximately 140 feet high on SCE property between the project site and the Whirlwind Substation interconnection. The preliminary design for the tie-line from the West BESS area collector substation includes up to five steel tower or pole structures on SCE property between the project site and the Whirlwind Substation interconnection. Of the five structures, three would be approximately 140 feet high, and two would be between 140 feet and 200 feet high. The two higher structures are needed to achieve the required vertical clearances over existing transmission lines. The preliminary routing path for both tie-lines and an example pole profile are shown in **Figure 3-8,** *Proposed Site Plan*.

Fiber-optic communication lines linking the collector substations and the existing communications room at the Whirlwind Substation would also be needed. To ensure reliability, two independent communication lines would be needed for each tie-line. The communication lines would be placed underground, overhead, or configured with a combination of both.

For the analyses provided in this Draft EIR, it is assumed that the communication lines would be installed in two separate underground trenches. This assumption provides the maximum disturbance area due to ground disturbance that would occur from the associated trenching and backfilling. As shown in **Table 3-3,** *Preliminary SCE Interconnection Work Scope Summary,* if the communications lines are constructed underground, they would be installed in relatively small (2- to 5-inch) diameter conduit or similar utility-standard conduit sizes. The communication lines would also require an approximately 4-foot by 4-foot by 6-foot manhole "meet-me" manhole structure or a functionally equivalent access structure located outside the SCE Whirlwind Substation fenceline.

The need for underground communications and precise locations for the underground installations would be determined during SCE's detailed design. For the analysis of the project's environmental impacts, it is assumed that trenching and other SCE work activities outside of the Whirlwind Substation, including tie-line access clearing, installation of communications lines, installation of tie-line support poles or towers, stringing of overhead conductors, and operation and maintenance of the tie-lines to the POCOs, would disturb all land within a 100-foot-wide corridor (approximately 6.4 acres) centered on each of the tie-line alignments shown in **Figure 3-8,** *Proposed Site Plan*. SCE's detailed design would minimize disturbance to the extent practical for safe and efficient construction and operations within the 100-foot-wide corridors.

Within the existing Whirlwind Substation, each tie-line would require the installation of facilities for a new 220-kV switchrack and line positions to terminate the tie-lines and telecommunications infrastructure. A preliminary scope description for SCE's portion of the tie-line extending from the POCOs is provided in **Table 3-3,** *Preliminary SCE Interconnection Work Scope Summary,* below.

TABLE 3-3: PRELIMINARY SCE INTERCONNECTION WORK SCOPE SUMMARY

Transmission Work
• Install a new 220-kV generation tie-line from the POCO in the South BESS area to a new 220-kV substation rack inside SCE's Whirlwind Substation.
• Install conductors and shield wire from the POCO to the new 220-kV substation rack inside SCE's Whirlwind Substation.
• Install three tubular steel poles or towers from SCE's Whirlwind Substation rack to the POCO. Height would be compatible with the height of the POCO structure.
• Install a new 220-kV generation tie-line from the POCO in the West BESS area to a new 220-kV substation rack inside SCE's Whirlwind Substation.
• Install conductors and shield wire from the POCO to the new 220-kV substation rack inside SCE's Whirlwind Substation.
• Install five tubular steel poles or towers from SCE's Whirlwind Substation rack to the POCO. Height would be compatible with the height of the POCO structure and required crossings.

Whirlwind Substation Work

For Each Tie-Line:

- Install a new 220-kV switchrack position to terminate the new generation tie line.
- Install one approximately 65-foot-high steel dead-end structure at 220-kV position 5N.
- Install three 220-kV coupling capacitor voltage transformers (CCVT) on new steel pedestal structures. Connect CCVTs using one 650 kilo circular mils (kCMIL) aluminum conductor steel reinforced (ACSR) conductor per phase.
- Install new pull boxes with terminal blocks and make-before-break switches at the CCVT structures.
- Install three 220-kV surge arresters on new steel pedestal structures. Connect surge arresters using one 605 kCMIL ACSR conductor per phase.
- Install three 220-kV line drops with tie-down support structure. Connect the line drop to the disconnect switches using three 1590 kCMIL ACSR conductors per phase.
- Install new homerun cables to the new CCVTs.
- Land ground wire and optical and ground wire at the top of approximately the 65-foot-high dead-end structure.
- Install one 220-kV line position.
- Install two 220-kV, 4000 amperes (A), 50 kiloamperes (kA) circuit breakers 4052 & 5052 with the circuit breaker mechanism facing away from the cable trench.
- Install four 220-kV, 4000A, horizontal group-operated disconnect switches on new steel structures. Equip the north line switch with a ground switch.
- Equip the position with three 1590 kCMIL ACSR conductors per phase. Install all required bus support structures and all conductor spacers.
- Install two operator interface cabinets for the new circuit breakers. The operator interface cabinets would be fabricated by the contractor.
- Install new homerun cables for the new circuit breakers.
- Install fourteen 220-kV bus support post insulators.
- Install foundation, conduit, grounding, homerun, and power cables.
- Install four conductor supports with pedestals.

Telecommunications Work

For Each Tie-Line:

- Install two new underground diverse fiber-optic line routes from Whirlwind Substation to new meet-me manholes outside of Whirlwind Substation fence line.

Route 1:

- Install new 2-5-inch underground conduit, or similar utility-standard conduit sizes, and fiber.
- Install one approximately 4-foot by 4-foot by 6-foot manhole “meet-me” structure, or functionally equivalent access structure, outside the southwest fence line of Whirlwind Substation.

Route 2:

- Install new 2-5-inch underground conduit, or similar utility-standard conduit sizes, and fiber.
- Install one approximately 4-foot by 4-foot by 6-foot manhole “meet-me” structure, or functionally equivalent access structure, outside the north fence line of Whirlwind Substation.

The location of the tie-line infrastructure between the POCO and the Whirlwind Substation would be determined by SCE and would be subject to review by the CPUC. SCE would be responsible for constructing the interconnection position and associated structures to terminate the BESS interconnection, as well as installing and relaying the telecommunications equipment associated with the new connection.

Construction equipment and methods for SCE's work would be similar to those of the project, which is described in further detail in **Section 3.8,** *Construction Activities*. It is anticipated that SCE's interconnection facilities construction would occur concurrently with the BESS construction, to be completed when the interconnecting BESS facilities are ready for testing. The two tie-lines are not expected to be constructed concurrently. Each tie-line and interconnection is expected to take approximately six months to construct, with an average of 14 construction workers and up to 20 workers during peak construction periods. Work inside the Whirlwind Substation is expected to require a backhoe, crane, forklift, aerial lifts, skid steer, and light- and medium-duty work trucks. Equipment and materials would be delivered via existing substation access routes.

Work for the tie-lines would require clearing and minor grading for access and work areas using a dozer or similar equipment, and would or may require a drilling rig, trencher, crane, aerial lifts, loader or backhoe, skid steer, and light- and medium-duty work trucks. A water truck would be used for all construction to control dust. Ground disturbances associated with SCE construction would occur within the previously developed footprint of the Whirlwind Substation and along the tie-line routes where clearing would occur for access, tie-line structures, and underground conduit installation. SCE construction activities on the tie-line and at the Whirlwind Substation normally would be weekdays between 6 a.m. and 5 p.m. Work could occur up to 7 days a week and 24 hours a day, at times if needed to meet completion schedule commitments.

Temporary Laydown Yard

An approximately 3-acre temporary laydown area would be needed for project construction. The temporary laydown area would be located adjacent to the South BESS area driveways near 170th Street West. The laydown area would be temporarily fenced and secured during construction and would be used for the temporary storage of materials and equipment.

Incident Command Center

The project would include an incident command center consisting of a dedicated fire water and fire alarm annunciator panel located near 170th Street that would be located a minimum of 300 feet from the closest battery containers. Two optional locations are proposed in the project site plan, as shown in **Figure 3-8,** *Proposed Site Plan,* and the final location would be determined in consultation with KCFD. In the event of a fire, the fire alarm annunciator panel would provide first responders with up-to-date optics of what is occurring with the BESS areas. KCFD would use this location to stage incoming emergency response equipment and for a multi-agency command post at a safe distance where full personal protective equipment would not be required.

3.8 Construction Activities

Construction of the project is anticipated to occur over a 2-year period following receipt of all required permits and approvals. Construction may be phased, with development of the North and South BESS areas occurring during the first year, followed by development of the West BESS area.

Clearing and grading would permanently disturb approximately 105.6 acres of the project site. This disturbance area includes an approximately 3-acre temporary construction laydown area and an estimated two additional acres located in small areas near the edges of grading outside the project fencelines that would not be further disturbed following grading. To the extent practicable, plant roots and soil in these areas would be left intact during clearing activities. Construction activities would be subject to applicable federal, State, and local permit conditions and regulatory requirements, including implementation of mitigation measures described in this Draft EIR.

SCE construction activities associated with the interconnection between the project site and the existing Whirlwind Substation would result in disturbance of up to 6.4 additional acres. The limits of disturbance are shown in **Figure 3-8,** *Proposed Site Plan*.

Construction would be required to follow all applicable federal, State, and local regulations, including project permit conditions and mitigation measures outlined in this Draft EIR. In addition, a full-time on-site safety professional would monitor and implement a comprehensive project-specific safety program.

Schedule and Workforce

As stated above, construction is anticipated to begin with the North and South BESS areas. Initial operations would commence using storage capacity in the South BESS area and the collector substation located within the North BESS area, while construction of additional storage capacity in the North BESS area continues. Construction of the West BESS area would occur last.

SCE's activities associated with the tie-lines and interconnections would occur concurrently with on-site construction. Construction of the eastern tie-line would be timed to ensure that the interconnection is available when the South BESS and North BESS area facilities are ready for testing and commissioning. Similarly, construction of the western tie-line would be coordinated to ensure that the interconnection is available when the West BESS area facilities are ready for testing and commissioning.

The combined construction workforce for the project and associated SCE facilities is expected to average approximately 114 workers, with a peak workforce of 220 workers during periods of intensive construction activity. Construction activities are also anticipated to generate an average of approximately 34 daily deliveries, with a peak of up to 60 daily deliveries dispersed throughout the day.

Most workers are expected to be drawn from nearby communities, including Lancaster, Rosamond, and Mojave, while some would commute from non-local areas, such as Bakersfield and Tehachapi. The project would utilize union labor, with wages at or above Internal Revenue Service standards for prevailing wages, and would comply with the Occupational Safety and Health Administration Standards during and after the construction phase. Additionally, NFPA 70E Standards for hot electrical work would be strictly adhered to and enforced.

A full-time site safety manager would implement and oversee health, safety, and fire protection throughout construction. The construction workforce would include a range of skilled trades and support personnel, including electricians, equipment operators, carpenters, cement masons, ironworkers, sitework crews, foundation crews, mechanical and electrical installation crews, high-voltage and commissioning crews, as

well as quality control and quality assurance staff, engineers, superintendents, project management personnel, material handlers, tool managers, site cleanup crews, and landscaping crews, as needed throughout construction. Local unions representing these trades have a strong regional presence, and most workers are expected to commute to the project site on a daily basis. The construction contractor would be responsible for hiring workers and would preferentially hire from the local labor pool.

Typical construction hours are expected to be from 6:00 a.m. to 5:00 p.m., Monday through Friday. Work may take place on additional days or extended hours if needed to achieve project schedule commitments. While not expected, construction activities could occur daily or round-the-clock for short periods, while ensuring compliance with Kern County Ordinance 8.36.020H requirements.

The project site driveways from 170th Street West and the construction laydown area adjacent to the South BESS area driveways would be among the initial items prepared to provide needed access for staging and construction. The SCE work areas for the tie-line and interconnection would also be accessed from 170th Street West. The Whirlwind Substation has an existing approximately 30-foot-wide engineered concrete driveway providing access to the inside of the substation. The tie-line work areas would be accessed using the unpaved, approximately 18-foot-wide Rosamond Boulevard extending west from 170th Street West. Project construction is not expected to require any road closure, except that construction activities associated with the tie-lines may prevent passage for short periods where the tie-lines would cross the unpaved road extending west from Rosamond Boulevard on SCE property.

Site Preparation

Construction would proceed with clearing, grubbing, and grading managed to minimize the area of active disturbance at any given time. Cleared vegetation would be mulched and hauled off-site for recycling or disposal. Disturbed surfaces would be stabilized promptly once grading in the area is complete. Extensive grading would not be required due to the existing grading levels at the project site being close to the desired finish grades needed for construction and control of stormwater drainage. The final grading plan would be designed to achieve a cut-and-fill balance. Grading would be completed using common construction equipment such as water trucks, bulldozers, loaders, haul trucks, and graders. Rough grading would include conditioning foundation areas as needed to achieve proper and consistent compaction in the subgrade and over the rough-graded surface, and achieving a cut-and-fill balance.

Finish grading would consist of bringing the ground surface elevation contours to final grade with gentle slopes for positive drainage and grading for stormwater controls consisting of shallow rip-rap-lined ditches, driveways/fire lane elevations, and detention and retention ponds as shown in **Figure 3-9,** *Proposed Grading Plan*. Grading in the flood zone would be minimized and designed for a "no-net-fill" and to avoid potential impacts related to flood flows. The BESS equipment would not be located in the flood zone.

The designated temporary staging and parking area for construction would occur within the areas to be developed and within an approximately 3-acre temporary staging area near 170th Street West. Temporary bulk fuel storage would be provided on-site for construction with secondary containment.

Sanitary facilities for construction would be provided via portable self-contained units maintained by a licensed contractor. Staging and parking for SCE's construction is expected to occur within the currently developed SCE property at the Whirlwind Substation and the 100-foot-wide SCE work area for each of the tie-lines.

Battery Energy Storage System Installation

Following grading, concrete or pile foundations for the BESS and associated infrastructure would be installed. Smaller equipment, such as Direct Current converters and SCADA systems, would be supported on concrete foundations, while battery enclosures and MV transformers would be supported on piles or concrete foundations. Piles would be vibrated or screwed into place. Installation of concrete foundations would consist of excavation, formwork, reinforcing steel placement, structural inspections, and concrete pouring and finishing, followed by form removal after curing.

Equipment placement and installation of MV underground duct banks would begin after the equipment foundations have been placed and the concrete has adequately cured. Cranes would be used to place equipment enclosures onto foundations, where they would be secured in place. Trenchers or backhoes would be used to excavate and backfill ditches for conduit and underground cabling. Once underground conductors are installed, electrical connections would be completed and inspected.

Construction of the on-site collector substations and SCE interconnection facilities would occur concurrently with the BESS installation and would be coordinated to accommodate testing and commissioning before the commencement of commercial operations. SCE would be responsible for all construction within the Whirlwind Substation and the tie-lines between the Whirlwind Substation and the POCOs.

Concrete would be sourced from off-site suppliers and delivered to the project site; no on-site batch plant would be required. Construction activities would utilize conventional equipment, including cement trucks, water trucks, truck-mounted drills, dump trucks, loaders, backhoes, skid steers, man-lifts, and cranes.

Construction Water Use

During project construction, water would be required for common construction-related purposes, including but not limited to, dust suppression, soil compaction, and grading. The overall construction water usage is anticipated to be approximately 55 acre-feet during the 2-year construction period.

Proposed sources of project water supply include groundwater from the Antelope Valley Groundwater Basin sourced from a new on-site well(s) via an Adjudicated Water Rights Agreement, groundwater from the Fremont Valley Groundwater Basin sourced from a private well(s) or purchased from a local retailer such as Mojave Public Utility District and trucked to project site, State Water Project water provided by Antelope Valley–East Kern Water Agency through a local retailer such as Rosamond Community Services District and trucked to project site, or a combination of these sources (**Appendix L**).

Construction Electrical Supply

Electric power for construction on-site would be provided by portable diesel-fired generators since there is no electric distribution line nearby, and the voltage of the nearby transmission is too high to be of practical use for construction purposes. Portable generators would conform to the Eastern Kern Air Pollution Control District emissions requirements.

Testing, Commissioning, and Cleanup

All constructed electrical equipment would be inspected and tested as appropriate prior to energizing. The project proponents would be responsible for compliance with all post-construction requirements, including permit conditions and mitigation measures outlined in this Draft EIR.

Solid and Nonhazardous Waste

The project would not generate large waste streams. Waste generation from construction would be short-term and would be mostly recyclable materials, including cardboard, wood, steel, and other metals. Waste from construction would primarily be reusable or recyclable packaging and shipping materials, such as wood pallets and crates, cardboard, and plastic.

Recycling would be the preferred management method whenever practical for all types of waste. A Waste Management Plan would be prepared and submitted to Kern County for review and approval in accordance with the California Green Building Standards Code. The Waste Management Plan would be implemented throughout construction and would identify waste management practices to be used during project construction, including materials proposed for diversion, on-site sorting procedures, designated diversion and recycling facilities, and calculated diversion rates demonstrating compliance with the California Green Building Standards Code requirement to divert a minimum of 65 percent of nonhazardous construction and demolition waste from landfill disposal.

The closest Class III municipal landfill is the Mojave-Rosamond Recycling and Sanitary Landfill, which is located approximately 19 miles northeast of the project site. The Mojave-Rosamond Recycling and Sanitary Landfill is an unlined, active, public, Class III sanitary landfill owned by the County and operated by the Kern County Public Works Department.

Hazardous Materials

The BESS would use lithium-ion batteries that would be delivered to the project site in U.S. Department of Transportation-certified vehicles and in compliance with all applicable requirements of the U.S. Department of Transportation, California Highway Patrol, and the California Department of Motor Vehicles.

Other hazardous materials used for construction would be typical for most construction projects of this type. Materials would include, but not be limited to, small quantities of gasoline, diesel fuels, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, dust palliative, herbicides, and welding materials/supplies.

Hazardous materials and wastes would be managed, used, handled, stored, and transported in accordance with applicable local and State regulations. Additionally, a Hazardous Materials Business Plan (HMBP) would be provided to the Kern County Environmental Health Division that would include a complete inventory of all hazardous materials temporarily stored on-site, information regarding how the materials would be transported, and emergency response/contingency plans and safety procedures. This information would be recorded to maintain safety and prevent possible environmental contamination or worker exposure from a release or threatened release of a hazardous material. During project construction, Material Safety Data Sheets for all applicable materials present at the site would be made readily available to on-site personnel.

Hazardous Waste

Small quantities of hazardous waste would most likely be generated over the course of construction. These wastes may include, but are not limited to, 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. Any hazardous wastes would be stored and disposed of as required by local and State regulations. Hazardous waste would either be recycled or disposed of at a permitted and licensed treatment or disposal facility. All hazardous waste shipped off-site for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler and disposed of at an approved location.

3.9 Operational Activities

The anticipated operational life of the project is 35 years; however, the batteries are expected to lose storage capacity over time with usage. After several years of project operation, augmentation batteries and equipment would need to be installed to ensure the project continues to meet its contracted capacity and performance requirements over the operational life of the facility. The degraded modules and racks would remain on-site, and additional batteries and associated equipment would be installed within the designated areas. Augmentation batteries and equipment would not increase the energy storage capacity beyond what would be approved under the CUPs for the project. Underperforming batteries identified during operations would remain on-site or be removed and returned to the original battery manufacturer for recycling or refurbishing.

The project is designed for remote operation and would be available to charge or discharge electric energy year-round, 24 hours per day, 7 days per week. A comprehensive monitoring and security system would be included. Installed infrastructure at the SCE Whirlwind Substation, the tie-lines between the Whirlwind Substation and the POCO, and SCE control and metering equipment within the collector substations would be operated and maintained by SCE. The project proponents would be responsible for the operation and maintenance of all on-site facilities, except for SCE control and metering equipment within the collector substations.

While the project would be operated remotely, some staff would be needed on-site during routine operations. On-site staff would be required for security and to perform inspections, light maintenance, compliance management activities, and administrative management of the site, such as receiving and managing an inventory of spare parts and equipment. It is anticipated that approximately two full-time employees would be needed for initial site operations. The site staffing needs could increase to approximately six full-time employees for routine operations following completion of construction in all three BESS areas.

In addition, the project may require approximately four to six part-time employees for periodic maintenance needs such as installing augmentation batteries or equipment, repairing or replacing failed components, managing vegetation, maintaining stormwater management systems, or maintaining facilities, such as the three operation and maintenance buildings and collector substation control houses. The operation and maintenance facility, described in *Operation and Maintenance Buildings,* would provide offices, a conference room, a break room, and sanitary facilities for on-site employees, vendors, and contractors.

The SCE interconnection facilities at the Whirlwind Substation and the SCE tie-lines would be unmanned. Periodic inspections would occur in conjunction with inspections that are ongoing for the existing substation and local high-voltage transmission infrastructure. On occasion, there could be a need for repairs or maintenance if a component fails, becomes unreliable, or is unsafe for any reason. If needed, SCE maintenance or repair work would be within the Whirlwind Substation or SCE-owned system control facilities in the collector substations and could potentially include linework on the tie-line. If maintenance or repair work is required, it could entail work similar to the construction of those facilities using some of

the same types of equipment. However, maintenance and repair efforts, if any, would be less intensive due to the infrastructure being in place and shorter durations.

Operation Water Use

During operation, it is anticipated that water would be required for flushing and filling the firewater tanks, as well as for the three operation and maintenance buildings. Water consumption during operations is expected to be less than 3 acre-feet per year. During operations, the water used is anticipated to be from the same proposed sources as construction. On-site water infrastructure would include water tanks distributed through the site, including an aboveground, 10,000- to 30,000-gallon tank located adjacent to the incident command post near 170th Street West. Dedicated fire water storage capacity would be provided to meet KCFD requirements. Final locations and tank volumes would be subject to coordination with KCFD. Bottled water would be provided at the operation and maintenance buildings for drinking.

Other than sanitary wastewater managed, as described in *Water and Wastewater Infrastructure*, the project would not generate routine wastewater. Stormwater run-off and condensate generated during operations that is considered clean water would be discharged to the ground surface or on-site detention basins, in accordance with applicable requirements.

Operation Electrical Supply

On-site operational power would be supplied by two station service transformers located at each collector substation. These transformers would reduce voltage to levels suitable for on-site uses, such as system controls, lighting, security systems, climate-controlled storage containers, and operation and maintenance buildings.

Solid and Nonhazardous Waste

Waste generated during routine operations would primarily be small quantities of packaging and shipping materials, such as wood, cardboard, paper, and plastic, from occasional equipment replacement or maintenance, and small quantities of household-type waste from maintenance crews. Additional nonhazardous waste streams, such as wire, metal, plastic parts, air filters, or other nonhazardous items, may be generated periodically. Recycling would be the preferred management method whenever practical for all types of waste.

Hazardous Materials

Routine storage of hazardous materials is not anticipated; however, certain project components may require hazardous materials for operation. These materials may include mineral oil in transformers, refrigerants and pressurized gases in climate-control equipment, diesel fuel for backup generators, and damaged lithium-ion batteries generated during maintenance or replacement activities. Additional materials with pressure-release hazards, such as compressed nitrogen cylinders and fire-suppression agents in equipment enclosures, may also be included in the final project design.

The precise volume or quantities of hazardous materials would not be known until final equipment selections occur during final design. Any hazardous materials on-site in quantities exceeding California HMBP reporting thresholds would be reported through the California Environmental Reporting System, including information regarding material type, quantity, location, container size, hazardous characteristics, and emergency response procedures.

Hazardous Waste

During operational inspections, a small number of underperforming batteries may be identified. The project would remove these batteries and return them to the original battery manufacturer for recycling or refurbishing. Other equipment may also require replacement from time to time and would be removed from the site and recycled or disposed of in accordance with applicable local and State regulations for waste management.

Small quantities of hazardous waste, such as aerosol cans or used rags, may be generated from some maintenance activities and, if generated, would be managed in accordance with California Code of Regulations Title 22 (22 CCR) requirements. Electronic waste would be managed as Universal Waste in accordance with 22 CCR.

Security and Lighting

The site would be closed to public access with gates that would be maintained, kept closed, and secured. Perimeter security fencing would entail an 8-foot-high chain link fence with a security wire top. Secured pedestrian gates would be provided adjacent to each vehicle access gate and at other locations on the perimeter. The design includes an incident command post for staging, assessing, and monitoring in the event of a battery fire on-site. The final location would be subject to KCFD approval.

Shielded, downward-directed night-lighting would be provided for safety and security. Lighting would be designed to conform to applicable County Dark Skies Ordinance requirements. A detailed lighting plan would be submitted during the process of obtaining building permits. Motion-sensitive and infrared cameras and other monitoring equipment would also be installed throughout the facility, including equipment mounted on poles up to 25 feet in height.

3.10 Decommissioning

Near the end of the anticipated operational life of up to 35 years after the start of commercial operations, the project proponents would determine whether the project should be decommissioned and deconstructed or if the project proponents would seek an extension of the project's operation and the appropriate permitting pathways under land use regulations in effect at the time.

If any portion of the project site is decommissioned, the project components would be removed from the project site to facilitate conversion of the project site to other uses in accordance with the applicable land use regulations in effect at that time. Disturbed areas from the removal of the project components would be stabilized. The project site could then be converted to other uses in accordance with applicable land use regulations in effect at that time.

A decommissioning plan would be developed as required by local codes and is anticipated to be part of the building permit review. The decommissioning plan would adhere to the requirements of the appropriate governing authorities as well as all applicable local, State, and federal requirements and best management practices.

The decommissioning would include the removal of above-grade facilities, buried electrical conduit, and concrete and pile foundations. Equipment would be repurposed off-site, recycled, or disposed of in a landfill as appropriate under State regulations. Most material generated would be recyclable metals, concrete, and electrical equipment. Some or most battery components would be recycled, and other components may be disposed of as hazardous waste, depending on available technology. Li-ion and lithium-iron phosphate

batteries and their constituent parts would likely be recycled. Some batteries may have the capacity to be reused at the end of the operating life of the project.

Decommissioning activities would primarily occur within the project's security fence, which would be among the last components to be removed. Decommissioning would take up to approximately 12 months to complete and would occur in the following phases:

(a) Phase 1 – Shutting down the systems and removing hazardous materials and wiring;

(b) Phase 2 – Removing the battery storage enclosures, inverters, and substations; and

(c) Phase 3 – Removing foundations, site fencing and driveways, and surface stabilization. Disturbed areas would be stabilized as soon as practical, as decommissioning progresses across the project site.

Decommissioning would involve the use of heavy equipment similar to that used for construction, although likely with a generally smaller equipment fleet. The project would require approximately 55 acre-feet of water for decommissioning from the same proposed sources as construction and operation. Appropriate hazardous materials control and erosion control measures would be used throughout the decommissioning process. It is anticipated that such controls would be substantially similar to those implemented during construction.

3.11 Entitlements Required

The Kern County Planning and Natural Resources Department, as the CEQA Lead Agency (per CEQA Guidelines Section 15052), has primary responsibility for the project. Project implementation may require various discretionary and ministerial permits/approvals, including but not limited to the following:

- Federal
  - U.S. Fish and Wildlife Service Incidental Take Permit and Habitat Conservation Plan (if required)
  - U.S. Army Corps of Engineers Jurisdictional Delineation and Section 404 Permit (if required)
  - Federal Communications Commission licenses
- State
  - CPUC
    - Approval under General Order 131E (if required)
    - Public Utilities Crossing/Encroachment Agreements (if required)
  - California Department of Fish and Wildlife
    - Section 2081 Incidental Take Permit (for state-listed and Candidate species, including burrowing owl and Western Joshua Tree)
    - Authorization for western Joshua tree removal under the Western Joshua Tree Conservation Act
    - Section 1600 et seq. (Lake and Streambed Alteration Agreement) (if required)

- Lahontan Regional Water Quality Control Board
  - Waste Discharge Requirements (if required)
  - Regional Water Quality Certification (401 and 404 Permit) (if required)
  - National Pollutant Discharge Elimination System Construction General Permit
  - General Construction Stormwater Permit (Preparation of a stormwater pollution prevention plan)

- **Local**
  - Kern County
    - Consideration and Certification of Final EIR
    - Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations
    - Adoption of Mitigation Monitoring and Reporting Program
    - Approval of Zone Change Case
    - Approval of Conditional Use Permits
    - Approval of Zone Variance
    - Approval of Non-summary Vacations of Public Access Easements
    - Approval of Kern County Grading and Building Permits
    - Approval of Floodplain Development Permit (if required)
    - Approval of Lighting Plan
    - Approval of Kern County Encroachment Permits (if required)
    - Approval of Fire Safety Plan
    - Approval of Emergency Response Plan
    - Approval of Hazard Mitigation Analysis
    - Approval of Hazardous Materials Business Plan
    - Approval of Decommissioning Plan
  - Eastern Kern County Air Pollution Control District
    - Approval of Fugitive Dust Control Plan
    - Approval of Authority to Construct Permits
    - Approval of Permits to Operate
  - Antelope Valley Water Master
    - Groundwater Right Authorization for withdrawal from the Antelope Valley Groundwater Basin

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

3.12 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 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 reasonably 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 Draft EIR. As previously stated, and as set forth in the CEQA Guidelines, related projects consist of "closely related past, present, and reasonably foreseeable probable future projects that would likely result in similar impacts and are located in the same geographic area" (CCR, Title 14, Division 6, Chapter 3, Section 15355).

Figure 3-15, *Cumulative Projects*, depicts the nearest approximate locations of projects considered in the cumulative analysis. These projects are listed in **Table 3-4,** *Cumulative Projects*.

Figure 3-15: Cumulative Projects

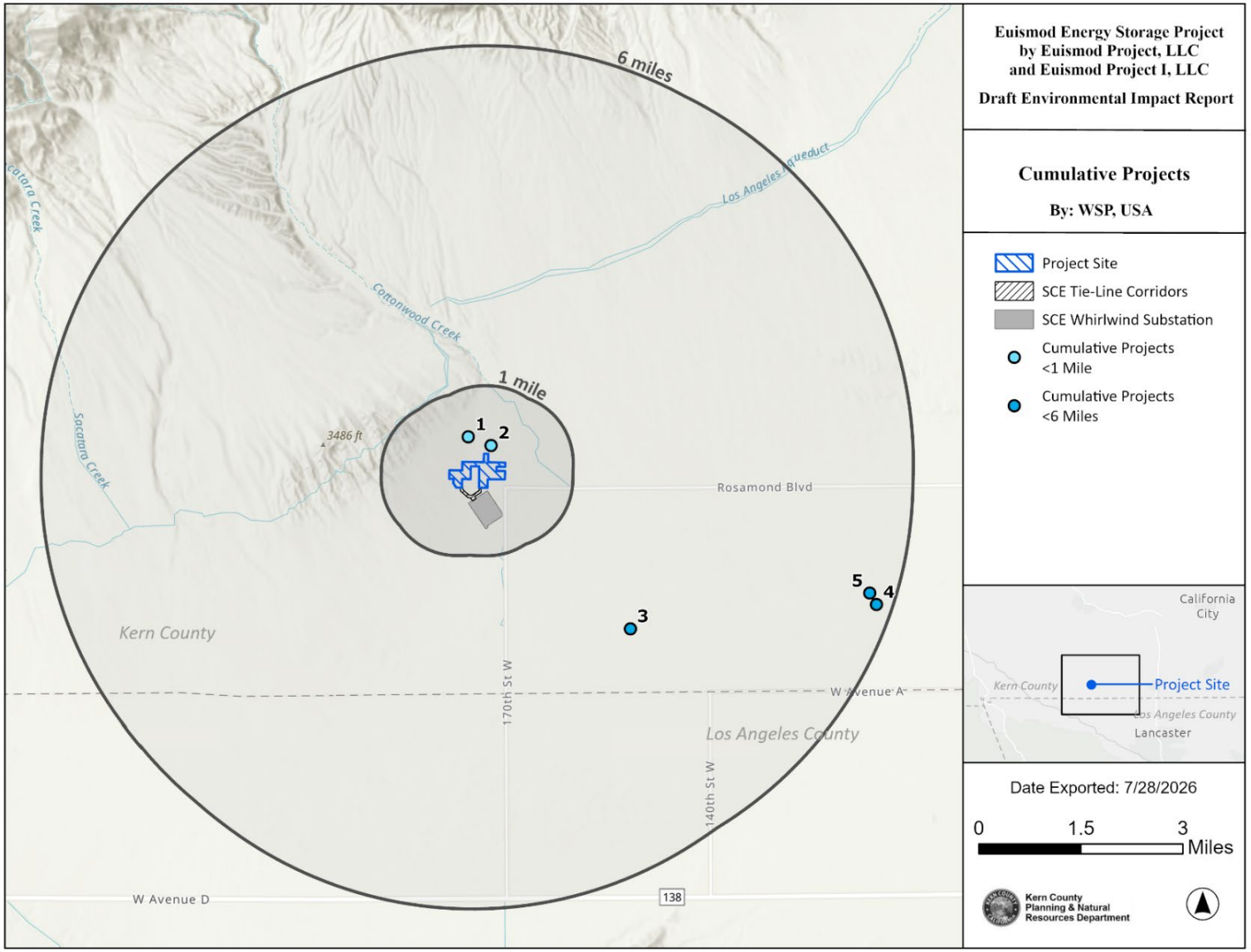


TABLE 3-4: CUMULATIVE PROJECTS LIST

No.	Project Name	Project Location	Project Description	Case Type	Project Site APN	Approx. Acreage	Project Status
1-MILE RADIUS CUMULATIVE PROJECTS							
1	Keyhole Wind Project	6242 Little Oak Canyon Road, Rosamond, CA	100 MW wind energy facility	CUP, GPA, ZCC, and Non-summary vacation	Multiple	2,920	Approved
2	Willow Rock Energy Storage Center[a]	1413 Dawn Road	500 MW / 4,000 MWh Advanced Compressed Air Energy Storage Facility interconnecting to Southern California Edison's Whirlwind Substation	N/A	Multiple	60	California Energy Commission Project—Approved
6-MILE RADIUS CUMULATIVE PROJECTS							
3	Rosamond Three Battery Energy Storage Project	N/A	65 MW or 260 MWh battery energy storage	SPA and CUP	359-140-22, 359-140-23, 359-140-26, 359-140-27	9	Prelim. Review
4	Tumbleweed Energy Storage Project	11527 Gaskell Road, Rosamond, CA	2 MW solar facility; 125 MW battery energy storage	ZCC and CUP	359-183-02	39	Approved
5	Cemetery	N/A	Cemetery	CUP	359-183-04	5	Prelim.

Key: APN = Assessors Parcel Number; MW= megawatt; MWh = megawatt-hour; CUP = Conditional Use Permit; GPA = General Plan Amendment; ZCC = Zone Class Change; N/A = Not Applicable; SPA = Specific Plan Amendment
Note:
[a] The Willow Rock Energy Storage Center's 230-kV generation tie line is included in the cumulative impact analysis

Chapter 4
Environmental Setting, Impacts, and Mitigation Measures

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Section 4.1
Aesthetics

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4.1.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the affected environment and regulatory setting regarding aesthetics and visual resources. It also evaluates the potential for the Euismod Energy Storage Project (project) to impact the existing visual character and quality of its surroundings through changes in the existing landscape. Potential impacts are evaluated from public viewing locations relative to important visual features (e.g., scenic highways, scenic features) of the existing visual landscape. Because a person's reaction and affinity to a given viewshed are subjective, visual changes affect viewers differently. Accordingly, this discussion uses a systematic process to assess visible change in the physical environment and the anticipated viewer's response to that change. Potential effects associated with lighting and glare are also evaluated. The terms and concepts in the discussion below are used to describe and assess the aesthetic setting and impacts of the project. This section also identifies mitigation measures that would reduce these impacts, if necessary.

This section is informed by the visual simulations prepared in June 2026, shown in **Section 4.1.4**, *Impacts and Mitigation Measures*, as these illustrate various representative views of the project site before and after project development.

Visual Concepts and Terminology

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

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

- **Glare:** The introduction of features with reflective surfaces has the potential to result in visual impacts. Reflected light can cause glint (a quick reflection) and glare (reflection that lasts for a longer duration), which depending on the intensity and duration, can create hazards for pilots, air traffic control personnel, motorists, and other potential receptors. Glare can also draw greater attention to objects in a landscape and contribute to visual effects. For the purposes of this Draft EIR discussion, any light reflected off project facilities is referred to as glare.
- **Key Observation Point (KOP):** A series of points on a travel route or at a sensitive use area, such as a public park, 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.
- **Scenic quality:** Refers to the visual appeal of a landscape relative to desired scenic values and the abundance or scarcity of similar qualities in the region. Scenic quality can be measured by evaluating the presence or absence of scenic features and the intrusion of other features that detract from the scenic features.
- **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 on 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 is also 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.

- **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 sensitivity to changes in the visual environment. 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.

- **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 a project site.

- **Viewing distance zones:** Perception of details (e.g., form, line, color, and texture) diminishes with increasing distance. The landscape is subdivided into three distance zones based on relative visibility from travel routes or observation points: foreground, middle ground, and background. The foreground zone includes areas less than ¼ mile away, the middle ground zone includes areas ¼ mile to 3 to 5 miles away, and the background zone includes areas beyond middle ground (FHWA 2015).

- **Visual quality** – visual quality is the study of pleasing perceptual experiences as seen by humans. Visual quality is a function of what the viewer wants or expects to see and what they actually do see. If people see what they want or expect to see, then the visual quality is good or high because the viewer is pleased. However, if what they see is lacking or not what is expected, then visual quality is poor or low because the viewer is disappointed. Expectations can be predictable for things like roadways and commercial development within a certain area. However, self-interest factors into visual preferences based on whether the viewer is a neighbor or user of a project site and how they may be personally benefited or affected. Different viewers and viewer groups value visual resources in different ways; therefore, there are different appraisals of visual quality. The following viewer responses aid in evaluating the overall landscape composition and vividness of both natural and cultural environments.

  – **Natural harmony:** The natural environment creates a sense of natural harmony in people. The visual character of the natural environment’s visual resources and viewer

preferences affect the perception of natural harmony, and the viewers inherently evaluate and determine if the composition is harmonious or inharmonious.

- **Cultural order:** The cultural environment creates a sense of cultural order in people. The visual character of the cultural environment's visual resources and viewer preferences affect the perception of order, and the viewers inherently evaluate and determine if the composition is orderly or disorderly.
- **Project coherence:** The project environment creates a sense of project coherence in people. The visual character of the project environment, in combination with viewer preferences, affects the perception of project coherence; viewers consciously or unconsciously evaluate the composition of the viewscape and determine if it is coherent or incoherent.
- **Visual quality:** The natural and cultural environment are elements that determine the overall visual quality for a complete visual landscape. The value placed on visual resources correlates to whether those resources meet the viewer's preferred concepts of natural harmony and cultural order. The more visual preferences and expectations are met by the landscape composition, the more that landscape is revered for its views and the more memorable, or vivid, it becomes. Visual features do not intrude but belong to a landscape of a harmonious nature in an orderly society.

Viewer preferences are established using a professional observational or public involvement approach. Professional observation is used on projects with average complexity and minimal controversy by identifying standard visual preferences associated with affected viewer groups that are adjusted to reflect state and local regulations protecting visual resources.

4.1.2 Environmental Setting

Regional Character

The project site is located within the Antelope Valley of Kern County, California. Kern County is California's third-largest county by land area, spanning more than 8,161 square miles across diverse geographic regions. The Antelope Valley encompasses approximately 2,400 square miles in northern Los Angeles County, southern Kern County, and western San Bernardino County. The region is on the south side of the Tehachapi Mountains and is dominated by desert vegetation. Topography in the Antelope Valley is relatively flat, with elevations gradually rising toward the northwest, providing open, expansive views of hills and mountains that surround the valley. Land uses in the Antelope Valley include a mix of undeveloped land, agriculture, solar and wind energy production facilities and transmission facilities, low-density residential development, and other uses.

The aesthetic features of the Antelope Valley near the project site include the southeastern flank of the Tehachapi Mountains, characterized by terrain that gradually slopes from northwest to southeast. The Pacific Crest National Scenic Trail (PCT) is located approximately 0.3 miles

northwest of the project site. Forest, parkland, and preserve areas in or near the Antelope Valley include the Angeles National Forest located approximately 35 miles southeast, the Desert Pines Wildlife Sanctuary located approximately 14 miles southwest, the Arthur B. Ripley Desert Woodland State Park located approximately 9 miles southwest, and the Antelope Valley California Poppy Reserve located approximately 10 miles southeast of the project site. Nearby utility- and renewable energy-related developments include the Southern California Edison (SCE) Whirlwind Substation, Pacific Wind Energy Project, Kingbird Solar, Antelope Valley Solar, and the PdV Wind Project.

Local Character

The project is located in an unincorporated area of southeastern Kern County, California, along the western edge of the Antelope Valley. The site is approximately eight miles west of the unincorporated community of Rosamond and approximately 17 miles south of the incorporated City of Tehachapi. The project site is also approximately 15 miles west of State Route (SR-) 14 and six miles north of SR-138.

The project site and surrounding area are characterized primarily by creosote bush scrub and are interspersed with existing solar and wind energy generation facilities, communications infrastructure, agricultural uses, and scattered rural residences. Topography is generally flat with minimal variation, reflecting the gradual southeastward slope from the Tehachapi Mountains. Elevations on the site range from 2,764 to 2,827 feet above mean sea level. Water features on the project site consist of ephemeral drainage features that only flow during storm events.

The project site consists of the following zoning districts: A (Exclusive Agriculture) and E (Estate). Many project parcels also contain one or more of the following combining districts: Floodplain Secondary (FPS), Wind Energy (WE), and Residential Suburban (RS). The surrounding area has a low population density, with few residences located within two miles of the project site. Nearby populated areas include Rosamond, approximately eight miles to the east; the City of Tehachapi, approximately 17 miles to the north; and Mojave, approximately 19 miles to the northeast.

Scenic Highways

According to the California Department of Transportation (Caltrans) California Scenic Highway Mapping System, there are no Officially 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 SR-58), located approximately 15 miles northeast of the project site, and SR-58 (portion east of SR-14), located approximately 20 miles northeast of the project site.

In addition to the State Scenic Highway Mapping System, the Kern County General Plan (KCGP) Circulation Element discusses scenic routes within Kern County and the process for local designation. The KCGP Circulation Element identifies three potential scenic routes, including portions of SR-14 north of Mojave and SR-58 between Mojave and Boron. These segments are over 10 miles from the project site; therefore, no officially designated or eligible State Scenic Highways or scenic routes occur in the vicinity of the project site.

As part of the Kern County General Plan Circulation Element goals, policies, and implementation measures, Kern County (County) adopted a Scenic Corridor Combining District within the Kern County Zoning Ordinance to designate areas that contain unique visual and scenic resources as viewed from a major highway or freeway. The project site is not within the Scenic Corridor Combining District.

Light and Glare

As noted above, the project site is mostly undeveloped except for high voltage transmission infrastructure, communications infrastructure, and unpaved roads. The lighting within and near the project site is typical of rural areas; there is no local roadway lighting, such as streetlights and traffic signals.

Glare is reflective light that can be visually unpleasant or possibly unsafe due to the potential for temporary blindness. Glare is primarily a daytime occurrence, but it may also occur at night from artificial sources of light and is caused by light reflecting off light-colored or smooth, highly polished surfaces (for example, metal, glass, water, or polished stone). Glare intensity varies depending on the source and intensity of the light, time of day, time of year, angle of reflectance, weather, atmospheric conditions, the reflectivity, color, and texture of material surface finish, length of exposure, type and sensitivity of receptors, and other factors.

Given the limited amount of night lighting on and around the project site, no significant sources of nighttime glare currently exist. The main source of nighttime lighting is from motorists passing through the area with headlights on. Nighttime levels of light and glare at the project site are very low because the project site is primarily undeveloped and does not contain any light sources. As discussed further below, Chapter 19.81 of the Kern County Code of Ordinances includes a “Dark Skies Ordinance” that minimizes outdoor nighttime lighting to avoid creating excessive illumination that can produce a glow that may obscure the night sky and excessive illumination, or glare that may constitute a nuisance.

Affected Viewer Groups

There are three overarching groups of viewers affected by a project: residents, recreationists, and motorists. Each viewer group is described in more detail below.

- **Residents** can be owners or renters who live within viewing distance of a proposed project or within project boundaries. Residential viewers generally have a desire to maintain the existing landscape as-is because how their neighborhood looks is a contributing factor for residents choosing to live there. Therefore, residential viewers tend to be uninterested in change unless they have been able to participate in defining the change.

- **Recreationists** include cyclists, off-highway vehicle users, hikers, and campers. Travelers include pedestrians, cyclists, motorists, and rail users who use various modes of transportation for commuting, touring, and shopping purposes. Pedestrians travel on foot or by other non-motorized mobility devices, typically using sidewalks or trails. Cyclists

travel at higher speeds than pedestrians and may use trails, sidewalks, or roadway bicycle facilities.

- **Motorists** travel by motorized vehicles, including automobiles, trucks, buses, motorcycles, or other transportation modes that are not self-propelled, regardless of fuel source. Motorists travel at higher speeds than other traveler groups. By necessity, drivers typically focus on roadway conditions and navigation rather than surrounding views. However, a driver may rely on visual coherence, natural harmony, and cultural order for wayfinding. Good natural harmony and cultural order can increase driver attentiveness. Passengers within vehicles and rail cars also move at high rates of speed but may be focused on views outside the vehicle or rail car or on activities within the vehicle or rail car, such as talking, reading, working, eating, people-watching, or napping. Passengers prefer evidence of good natural harmony and cultural order. Commuters travel the same route regularly, have a repeated routine, and are often single drivers, but they may also be passengers, and trips can include commuting to work or to a favorite or frequent destination (e.g., campground, cabin, sports arena, relative's home).

Views for affected viewer groups consist largely of natural desert vegetation, dirt and paved roadways, transmission conductors and structures, solar and wind facilities, scattered rural residences, and the distant mountains and hills. Motorists and recreationists have views of the project site, existing transmission facilities, and background views of wind turbines and the distant Tehachapi and Soledad mountains.

The project vicinity has relatively flat terrain with little to no interesting landforms and is comprised of low-lying vegetation with some varying forms and textures. While views of the mountains are distinctive, these views are fairly common within the region. The landscape colors are muted earth tones of green, brown, and tan, varying in contrast. A segment of the PCT near the project site allows for a relatively expansive view of the surrounding landscape. The view is dominated by low-lying vegetation of little to no variety or contrast, transmission infrastructure such as structures, conductors, and substation components, and scattered wind turbines along the valley's flat floor. These visual conditions contribute to an average existing visual quality (see **Section 4.1.4**, *Methodology*).

4.1.3 Regulatory Setting

Federal

National Scenic Byways Program

The National Scenic Byways Program is part of the U.S. Department of Transportation, Federal Highway Administration (FHWA). Under the program, the U.S. Secretary of Transportation recognizes certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities (FHWA 2024a). There

are no National Scenic Byways or All-American Roads within the vicinity of the project site (FHWA 2024b).

U.S. Department of the Interior, National Park Service, National Trails System Act

The National Trails System Act of 1968 established national recreation, scenic, and historic trails. National scenic trails are designated as such:

> to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass. National scenic trails may be located so as to represent desert, marsh, grassland, mountain, canyon, river, forest, and other areas, as well as landforms which exhibit significant characteristics of the physiographic regions of the nation (16 United States Code § 1242).

The National Trails System Act of 1968 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 outdoor recreation opportunities and conserve significant scenic, historic, natural, or cultural qualities (National Park Service 2019). PCT's southern terminus is on the U.S. border with Mexico, just south of Campo, California, and its northern terminus is on the Canada–U.S. border on the edge of Manning Park in British Columbia; its corridor through the United States is in the states of California, Oregon, and Washington. As stated previously, the closest segment of the PCT is located approximately 0.3 miles northwest of the project site.

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 16 miles northeast of the project site, and SR-58 (portion east of SR-14), located approximately 21 miles northeast of the project site (Caltrans 2026).

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to aesthetics and visual resources. The goals, policies, and implementation measures in the KCGP and the Willow Springs Specific Plan related to aesthetics and visual resources that are applicable to the project are provided below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for aesthetics and visual resources applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

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

The KCGP acknowledges the three routes identified as part of the California Scenic Highways Master Plan that are designated “Eligible State Scenic Highway” within Kern County. Route 1, which begins north of Mojave and continues to the Inyo County Line, consists of SR-14 and State Highway 395. Route 2 consists of SR-58 between Mojave and Boron. Route 3 consists of 5 miles of SR-41 in northwest Kern County. The project would potentially be visible from segments of Route 1 and Route 2. The Circulation element provides County procedures for obtaining a designation for any of these routes as Officially Designated State Scenic Highways. This has not happened for any of the identified routes to date.

As part of the KCGP Circulation Element goals, policies, and implementation measures, the County adopted a Scenic Corridor Combining District to designate areas that contain unique visual and scenic resources as viewed from a major highway or freeway. The project site is not within the Scenic Corridor District.

As SR-58 and SR-14 are not officially designated, they are not considered scenic highways for this analysis; therefore, no policies regarding development within Scenic Routes would be applicable

to the project. However, the KCGP provides general goals and policies for design features of development projects in order to reduce their impacts on scenic resources. The policies and implementation measures in the KCGP for aesthetic and visual resources applicable to the project are provided below.

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 California Environmental Quality Act (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 Springs Specific Plan

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). 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 KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for aesthetics and visual resources applicable to the project are provided below. The Willow Springs Specific Plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated in **Chapter2**,

Introduction, all goals, policies, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Land Use Element

Resource

Goals

Goal 1: To achieve compatibility of adjacent land uses within the plan area.

Policies

Policy 1: Provide a method encouraging the preservation of agricultural land.

Policy 2: Require review of discretionary projects in those areas designated for Resource use by the appropriate agency to determine potential resource loss.

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

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

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

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

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

The ordinance provides requirements for outdoor lighting within specified unincorporated areas of Kern County; the project would comply with the requirements, which include:

- All outdoor lighting fixtures which utilize one hundred (100) watts or more (based on an incandescent bulb) or emit one thousand six hundred (1,600) lumens or more per fixture, shall be fully shielded per the definition listed in this chapter, unless the fixture is exempted by this chapter. All floodlights which utilize less than one hundred (100) watts per fixture must be at least partially shielded to reduce light spillover onto adjacent properties. Additionally, the light source (bulb) within all lighting fixtures shall be oriented downward to prevent direct up lighting.
- Lighting fixtures (such as carriage lights, under-eave lights and porch lights) that utilize less than one hundred (100) watts and emit less than one thousand six hundred (1,600) lumens per fixture and that do not project light above the horizontal plane shall not be subject to an illumination curfew.
- Security lighting fixtures that utilize one hundred (100) watts or more (or emit one thousand six hundred (1,600) lumens or more) shall be controlled by a motion-sensor device if used after 11:00 p.m., and the fixture shall only be illuminated when activated by the device. The motion sensor device shall be programmed so that the fixture remains illuminated for no more than ten (10) minutes if activated by the device. Each fixture shall conform to all other provisions of this chapter, including shielding requirements.
- All other non-exempt outdoor lighting fixtures shall be turned off between the hours of 11:00 p.m. and sunrise.
- Outdoor lighting fixtures located outside of a residential zone district (E, R-1, R-2, R-3), or located more than twenty-five (25) feet from any existing single-family residence within any other zone district shall be subject to the shielding provisions but are not subject to an illumination curfew.
- Metal halide, mercury vapor, and quartz exterior light source types shall be prohibited in and within twenty-five (25) feet of all residential zone districts (E, R-1, R-2, and R-3).
- Outdoor light fixtures shall be kept in good working order and shall be continuously maintained in a manner that serves the original design intent of the system and ensures continued compliance with this chapter.
- All light fixtures that are mounted on a building or structure (attached lighting) and all lighting fixtures that are not attached (freestanding lighting) shall conform to the mounting height limitations as listed in Table 19.81.050.C.1 of the ordinance. Maximum fixture height shall be measured from the finished interior grade of the mounting area to the top point of the lighting fixture.

- Even fixtures shown as fully shielded must be installed and aimed properly to comply with ordinance.
- Low voltage landscape lighting such as that used to illuminate fountains, shrubbery, trees, walkways, etc., shall be permitted provided that such lighting is limited to fixtures utilizing a maximum of sixty (60) watts (or seven hundred fifty (750) lumens, whichever is or less), per fixture, the fixture is not mounted to poles or buildings, and the fixture is shielded to eliminate glare and light spillover onto adjacent properties.

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.

Los Angeles County

Although portions of the 5-mile visual extent, including foreground/middleground distance zones, extend into Los Angeles County, views of the project from within Los Angeles County are expected to be limited by intervening topography, vegetation, and distance. As a result, viewers in Los Angeles County are not anticipated to experience adverse visual impacts from the project. Therefore, Los Angeles County visual or land use regulations are not included in this analysis.

4.1.4 Impacts and Mitigation Measures

This section describes the impact analysis relating to aesthetics and visual resources for construction, operation, and decommissioning of the project. It describes the methods used to determine the visual impacts of the project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate significant impacts accompany each impact discussion, where applicable.

Methodology

The project's potential impacts on aesthetics and visual resources have been evaluated using a variety of resources. In general, the potential character, quality, light, and glare impacts associated with the project are evaluated on a qualitative basis. This visual impact assessment is being utilized to identify and assess any potential long-term adverse visual impacts to aesthetics and visual resources that might result from the implementation of the project. This assessment is based on the approved visual assessment practices employed by the Bureau of Land Management (BLM; BLM 1986) that are frequently used by other federal agencies for National Environmental Policy Act analyses and lead agencies in California for CEQA analyses. 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 to the project site and its vicinity to document the following:
  - Project site's visual characteristics
  - Project vicinity's visual characteristics
  - Establish a visual characteristic baseline
- Establishing KOPs within the project vicinity from which to evaluate potential visual impacts resulting from the implementation of the project;
- Preparing visual simulations of post-development views from the selected KOPs;
- Assessing the project's impacts on sensitive views by applying BLM's visual quality rating system to each of the visual simulations;
- Assessing the project's impacts related to lighting and glare; and
- Proposing methods to mitigate any potentially significant visual impacts identified.

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

Selection of Key Observation Points (KOPs)

KOPs were selected to represent views that would be experienced from sensitive viewpoints. KOPs are single viewpoints that provide a representative sample of potential project impacts from public viewing locations. KOPs were identified based on a review of available land use data and aerial maps, and by conducting a preliminary viewshed analysis.

The project is located entirely within privately owned parcels with minimal public visibility; therefore, BLM's Visual Resource Management categories and management policies do not apply. There is a limited volume, frequency, and duration of views of the project site, and viewers would primarily be people driving to and from destinations within the area. Sensitivity to change in the landscape would be experienced by travelers who would generally fall into the following categories: employees, residents or recreationalists. Therefore, KOPs were selected to represent views that would be experienced by these sensitive receptors from public viewing locations near residential areas, recreational sites, and along local roadways.

Familiarity with the view also influences how much attention is spent on the visual environment. Regular motorists may be familiar with the view and sometimes pay less attention; however, these motorists tend to be much more sensitive to changes in that view. Commuters near the project site would have a heightened sensitivity to visual changes to the landscape, specifically those who utilize adjacent local roadways. People who are less familiar with the view may spend more time

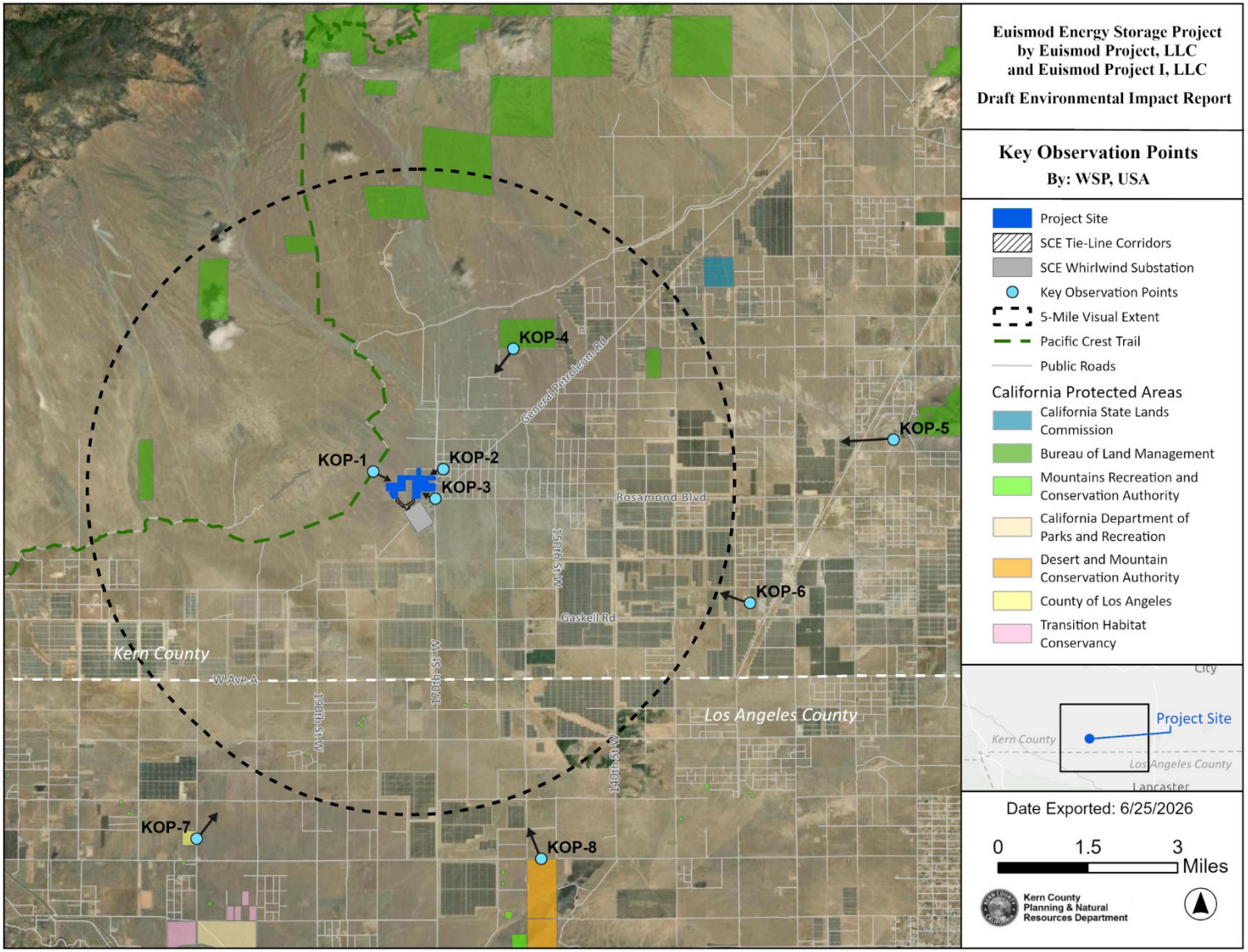
looking at the surrounding land but would not notice changes in the view. The majority of sensitive viewers are likely to be motorists who are employees of nearby renewable energy developments or residents driving to and from home, or travelers along the PCT.

Although eight KOPs were identified for the project, only KOP-1 through KOP-3 were selected to create post-development simulations to help illustrate visual impacts associated with the project. While KOP-4 is within the visual extent, it does not offer views of the project site or surrounding existing utility-related infrastructure. Although KOP-5 through KOP-8 are located outside the foreground and middle ground distance zone (visual extent), they represent potentially sensitive viewers; however, they do not offer clear views of the project site. Therefore, KOP4 through KOP-8 were not selected for creating a post-development simulation. All eight KOPs are mapped on **Figure 4.1-1**, *Key Observation Point (KOP) Locations*, and described below in **Table 4.1-1**, *Key Observation Points*.

TABLE 4.1-1: KEY OBSERVATION POINTS

KOP	Visual Simulation	Location	Distance from Project Site	Representative Sensitive Viewers
1	1	From the Pacific Crest Trail, looking southeast toward the project site.	Approximately 0.3 miles northwest of the project site.	Recreationalists
2	2	From the corner of Fisher Avenue and 168th Street West, looking southwest toward the project site	Approximately 0.17 miles northeast of the project site.	Residents and motorists
3	3	From the corner of Rosamond Boulevard and 170th Street West, looking west to northwest of the project site.	Approximately 0.12 miles southeast of the project site.	Residents and motorists
4	N/A	From Favorito Avenue, looking southwest toward the project site.	Approximately 2.49 miles northeast of the project site.	Residents and motorists
5	N/A	From the nearest known historic landmark along Manly Road, looking west toward the project site.	Approximately 7.7 miles east of the project site.	Residents and motorists.
6	N/A	From the nearest public cemetery located along 117th Street, looking west toward the project site.	Approximately 5.58 miles southeast of the project site.	Residents and motorists.
7	N/A	From the Neenach Habitat Wildlife Preserve, located along 210th Street West, looking northeast toward the project site.	Approximately 6.55 miles southwest of the project site.	Residents, motorists, and recreationalists.
8	N/A	From the Solar Ranch Nature Preserve, located along West Ave D, looking northwest toward the project site.	Approximately 6.34 miles southeast of the project site.	Residents, motorists, and recreationalists.

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



Visual Simulation Preparation

Visual simulations were prepared for the three KOPs with views of the project site to facilitate comparison of pre- and post-project conditions and to provide baseline context for evaluating potential aesthetic changes associated with project development. The simulations were developed by WSP USA, Inc. in June 2026 using photographs taken by the project proponent in May 2026 and the methodology and assumptions summarized in **Table 4.1-2**, *Visual Simulation Methodology and Assumptions*.

TABLE 4.1-2: VISUAL SIMULATION METHODOLOGY AND ASSUMPTIONS

Component	Details
Photography from KOPs	Photographs were taken on a clear day with scattered clouds in May 2026. All KOPs, except KOP-2, were taken on a Canon PowerShot SX40 HS digital camera with a focal length of 4 mm. A handheld GPS provided orientation assistance. KOP-2 was taken on an iPhone 16 Pro with the following camera system (Apple 2026): • 48MP Fusion: 24 mm, f/1.78 aperture, second-generation sensor-shift optical image stabilization, 100% Focus Pixels, support for super-high-resolution photos (24MP and 48MP) • 12MP 2x Telephoto: 48 mm, f/1.78 aperture, second-generation sensor-shift optical image stabilization, 100% Focus Pixels • 48MP Ultra Wide: 13 mm, f/2.2 aperture and 120° field of view, Hybrid Focus Pixels, super-high-resolution photos (48MP) • 12MP 5x Telephoto: 120 mm, f/2.8 aperture and 20° field of view, 100% Focus Pixels, seven-element lens, 3D sensor-shift optical image stabilization and autofocus, tetraprism design • No zoom was used in the photo
Visual simulation assumptions	• Tie-line structures were modeled at their maximum anticipated heights. All structures were modeled at 140 feet, except for the two structures that would cross existing transmission lines, which were modeled at 200 feet. Structure design was based on the site plan. • As a conservative assumption, both Incident Command Post options were included in the visual simulations and were modeled at 23 feet long, 6 feet wide, and 7 feet high. As described in **Chapter 3**, *Project Description*, only one of the two options is expected to be selected for construction. • The water tank associated with both Incident Command Posts was modeled at 21 feet in diameter and 20.5 feet in height. • The telecommunications tower was modeled at 15 feet wide, 25 feet deep, and 100 feet high. • As provided in **Figure 3.7-1**, *Project Site Plan*, within **Chapter 3**, *Project Description*, the battery energy storage enclosures were modeled at 9.5 feet in height. • Fencing up to 8 feet in height. The collector substation site 3D model used various typical electrical substation models and buildings arranged within the defined footprint.

Component	Details
Methods	Following the data gathering phase, the process began with a determination of proposed camera locations and station points. Upon review and approval of camera locations, the project proponent conducted a site visit to photograph the locations. Concurrently, WSP developed a computer model of the project site to illustrate its appearance from different points of view. Natural and finished pads, including existing and surrounding contextual elements such as streets, terrain, and adjacent development, were used as a reference. Using the photographs acquired of the three KOPs, a three-dimensional physical massing model was created that incorporated the project components, utilizing the visual assumptions identified above. The model was then georeferenced and placed on GPS-controlled site-specific photographs to create simulations that demonstrate visual changes from the project.

A comparison of existing views from the KOPs, with visual simulations depicting visible project features, aided in determining potential 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. While the battery energy storage system (BESS) facility and tie-line connections shown in visual simulations are not identical to those that would be developed on the project site, project components are visually similar based on proposed elevations, regardless of the manufacturer, and, therefore, are similar enough to evaluate potential project impacts to aesthetics.

Rating Visual Quality

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

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

1. The ***landform*** component of the visual quality rating criteria takes into account the fact that topography becomes more interesting visually as it gets steeper or more massive, or more severely or universally sculptured. Outstanding landforms may be monumental (as found in Yosemite Valley), or they may be exceedingly artistic and subtle (such as certain badlands, pinnacles, arches, and other extraordinary formations).

2. The ***vegetation*** component of the rating criteria gives primary consideration to the variety of patterns, forms, and textures created by plant life. Short-lived displays are given consideration when they are known to be recurring or spectacular. Consideration is also given to smaller scale vegetation features that add striking and intriguing detail elements to the landscape (e.g., gnarled or wind beaten trees, Joshua trees, etc.).

3. The ***water*** component of the rating criteria recognizes that visual quality is largely tied to the presence of water in scenery, as it is that ingredient which adds movement or serenity to a scene. The degree to which water dominates the scene is the primary consideration in selecting the rating score for the water component.

4. The ***color*** component of the visual quality rating criteria considers the overall color(s) of the basic components of the landscape (e.g., soil, rock, vegetation, etc.). Key factors that are used when rating the color of scenery are variety, contrast, and harmony.

5. The ***adjacent scenery*** component of the rating criteria takes into account the degree to which scenery outside the view being rated enhances the overall impression of the scenery under evaluation. The distance of influence for adjacent scenery normally ranges from zero to 5 miles, depending on the characteristics of the topography, the vegetation cover, and other such factors. This factor is generally applied to views that would normally rate very low in score, but the influence of the adjacent high visual quality would enhance the visual quality and raise the score.

6. The ***scarcity*** component of the visual quality rating criteria provides an opportunity to give added importance to scenic features that appear to be relatively unique or rare within a region. In some cases, evaluating individual key visual factors separately may not fully capture the overall scenic quality of an area. Often, a landscape is unique or rare when several otherwise ordinary elements in the proper combination create the most distinctive or pleasing scenery. The scarcity factor can be used to recognize this type of area and give it the added emphasis it should have.

7. The ***cultural modifications*** component of the visual quality rating criteria takes into account any man-made modifications to the landform, water, vegetation, and/or the addition of man-made structures. Depending on their character, these cultural modifications may detract from the scenery in the form of a negative intrusion, or they may complement and improve the scenic quality of a view.

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

TABLE 4.1-3: VISUAL QUALITY RATING SYSTEM

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

Key Factors	Rating Criteria and Score		
Cultural Modifications	Modifications add favorably to visual variety while promoting visual harmony.	Modifications add little or no visual variety to the area, and introducing no discordant elements.	Modifications add variety but are very discordant and promote strong disharmony.
	Score 2	**Score 0**	**Score -4**

Notes:
*A rating greater than 5 can be given but must be supported by written justification.
Source: BLM 1986.

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

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

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

- **Potentially Significant Impact:** Any impact that could potentially lower the visual quality of an identified sensitive (greater than average) viewpoint by two points or more, and for which no feasible or effective mitigation can be identified.
- **Less-than-Significant Impact with Mitigation Incorporated:** Any impact that could potentially lower the visual quality of an identified sensitive viewpoint by two points or more but can be reduced to less than two points with mitigation incorporated. Therefore, specific mitigation measures are provided to reduce the impact to a less-than-significant level.
- **Less-than-Significant Impact:** Any impact that could potentially lower the visual quality of an identified sensitive viewpoint by one point or less. In visual impact analysis, a less-

than-significant impact usually occurs when a project's visual modifications can be seen but do not dominate, contrast with, or strongly degrade a sensitive viewpoint.

- **No Impact:** The project would not have an impact from an identified sensitive viewpoint. In visual impact analysis, there is no impact if the project's potential visual modifications cannot be seen from an identified sensitive viewpoint.

Light and Glare

Light and glare impacts are determined by assessing the project site's existing light and glare levels, evaluating affected viewers, viewer sensitivity, and viewer preferences, and determining if changes in light and glare associated with the project are negligible, positive, or negative, and if any mitigation is needed to reduce impacts. Intensities may range from being less substantial when there is little change and light, and glare levels remain essentially the same, resulting in a neutral viewer response. Conversely, impacts may be more substantial when changes in light and glare levels result in degraded light and glare conditions and cause a negative viewer response by either decreasing light and glare in areas that are perceived as already having too little or adequate lighting or increasing light and glare in areas that are perceived as already having adequate or too much light or glare. Substantially increasing or decreasing light and glare levels would heighten viewer response and result in more severe impacts.

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.

As the project site is not located in an urban area, thresholds that apply to projects located within an urban area do not apply to the project.

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, whether from a designated viewpoint or natural outlook, that offer expansive and visually appealing views of natural or cultural landscapes. Scenic vistas may be designated by a federal, state, or local agency. Scenic vistas can also include designated scenic highways, expansive views, and views of public parks, recreational areas, and culturally important locations in which the project could be visible.

There are no local areas designated as scenic vistas within the project vicinity. However, the PCT, a publicly recognized recreational facility and long-distance hiking and equestrian trail, is located approximately 0.3 miles northwest of the project site. As illustrated in **Figure 4.1-2**, *KOP 1: Existing and Simulated Views from the Pacific Crest Trail*, the pre-development views of the project site from KOP 1 include several existing anthropogenic developments, such as overhead high-voltage transmission lines, numerous transmission structures, the SCE Whirlwind Substation, and a wind turbine. Existing views of the project site are dominated by desert shrubs and low-lying groundcover. Located in the background, the project features would be seen adjacent to the SCE Whirlwind Substation and would likely be detectable. However, the project would generally blend in with the surrounding facilities, featuring similar structures, materials, and colors. The vertical lines of project tie-line structures would blend in with the existing transmission structures throughout the valley floor.

Due to the distance and developed nature of the landscape visible from the PCT in the viewshed, project development would result in a minimal visual contrast. Therefore, impacts on scenic vistas associated with the PCT would be less than significant, and no mitigation would be required.

SCE Whirlwind Substation Upgrades

The project includes two 220-kV overhead tie-lines to the SCE Whirlwind Substation located on the adjacent parcels to the south of the project site. SCE's work activities outside of the Whirlwind Substation, including tie-line access clearing, installation of telecommunications lines, installation of tie-line support poles or towers, stringing of overhead conductors, and operation and maintenance of the tie-lines to the Point of Change of Ownerships, would disturb all land within a 100-foot-wide corridor centered on each of the offsite tie-line alignments. Within the existing Whirlwind Substation, each tie-line would require the installation of facilities for a new 220 kV switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3**, *Project Description*.

As stated above, the project site, including the SCE Whirlwind Substation, is not located within the vicinity of a federal, state, or locally designated scenic vista. The tie-line structures required to interconnect the battery energy storage systems to the Whirlwind Substation would appear similar in scale, form, and color to the surrounding infrastructure, maintaining characteristic features of the existing landscape. The facilities associated with SCE interconnection work result in minimal changes to the appearance of existing SCE facilities, producing no noticeable change to existing

views and resulting in a less than significant impact. Therefore, impacts on scenic vistas associated with the PCT would be less than significant, and no mitigation would be required.

Mitigation Measures

No mitigation would be required.

Level of Significance

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.

According to the California Scenic Highway Mapping System, there are no Officially Designated State Scenic Highways within Kern County. The California Scenic Highway Mapping System identifies both SR-58 between Mojave and Boron and SR-14 north of Mojave as eligible State Scenic Highways (Caltrans 2026). Although they are designated as Eligible for State Scenic Highway status, they have not yet been Officially Designated. Furthermore, these segments are located substantially farther from the project site—approximately 15 to 18 miles east (SR 14) and 20 to 22 miles northeast (SR 58). SR 41, the third eligible highway, is located in northwest Kern County and lies more than 100 miles from the project site. The project would not be visible from any Officially Designated State or County Scenic Highway. Therefore, construction and operation of the project would not change the viewshed from any Officially Designated Scenic Highway, and no impact would occur.

SCE Whirlwind Substation Upgrades

As described above in Impact 4.1-1, the project includes two 220-kV overhead tie-lines and upgrades to the SCE Whirlwind Substation within the Whirlwind Substation boundaries, which would entail the installation of new facilities to interconnect the proposed facility with the substation. As in the case of the other features of the project, the tie-lines and upgrades to the Whirlwind Substation would not be visible from an Officially Designated State Scenic Highway. Furthermore, the Whirlwind Substation site is an existing developed site that does not include a scenic resource and/or historic building that could be removed, altered, or otherwise changed. Therefore, no impact would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact would occur.

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

As described in **Chapter 3**, *Project Description,* and above under **Section 4.1.2**, *Environmental Setting*, existing development in the project vicinity includes transmission and communications infrastructure, scattered rural residences, and various wind and solar energy infrastructure. As the project is located within a nonurbanized area, the analysis below will focus on whether development of the project would substantially change the existing visual character or quality of public views of the site and its surroundings.

Construction

Construction activities associated with the project would temporarily alter views of the project site, as construction activities would introduce a considerable amount of heavy equipment, including excavators, backhoes, compactors, and material transport vehicles, into the viewshed of all viewer groups. The construction duration is expected to last approximately two years in total, with construction-related activities occurring on weekdays between 6:00 a.m. and 5:00 p.m. The construction workforce is expected to average approximately 100 on-site personnel and increase to 200 during peak construction periods. An approximately three-acre temporary laydown area would be needed for construction, located adjacent to the South BESS area driveways near 170th Street West. The laydown area would be temporarily fenced and secured during construction and would be used for the temporary storage of materials and equipment.

The influx of construction vehicles, equipment, and personnel would introduce visual contrasts within the project site's existing rural setting and may be visible in the foreground and middle ground from local roadways and other nearby publicly accessible vantage points. As a result, construction would create a noticeable change in contrast to the visual environment. However, these activities would not substantially alter the overall visual character of the project site or viewshed. The overall visual character of the project site would remain characterized as a rural landscape with desert vegetation communities and prominent electricity-generating and transmission-related infrastructure features. Additionally, similar equipment and vehicles can be associated with transmission, energy, agricultural, and other development activities within the project vicinity. Construction-related visual effects would be limited in duration and confined within the designated work area. Therefore, the temporary increase in construction equipment, vehicles, and personnel would not be expected to substantially degrade the visual character of the project site and surrounding area.

Vehicle and equipment operations may produce visible dust during vegetation-clearing activities and from traveling on unpaved roadways that could temporarily affect visual character. Visible dust plumes could attract attention from viewers and temporarily affect short-range views of the

project site. However, as discussed in **Section 4.3**, *Air Quality*, the project would implement dust-control measures to minimize fugitive dust during construction.

In addition, if the project site is not properly maintained, it could accumulate significant amounts of construction debris, recyclable materials, and waste that could degrade the viewshed. This is a potentially significant impact would be minimized with the implementation of **Mitigation Measure (MM) 4.1-1**. This measure requires the preparation and implementation of a Maintenance, Trash Abatement, and Pest Management Program. The program would ensure that trash, construction debris, and waste materials are properly stored and regularly removed from the project site. Incorporating this measure would minimize visual clutter and maintain the site's appearance throughout construction. With the implementation of dust-control measures and **MM 4.1-1**, construction-related visual impacts would be temporary, localized, and adequately maintained. Therefore, impacts on the existing visual character of the project site and the surrounding area during construction would be less than significant.

Operation

Following project construction, temporary construction-related equipment would be removed, and the viewshed would include battery energy storage facilities and associated infrastructure, including on-site substations, telecommunications towers, operation and maintenance buildings, access roads, perimeter security fencing, and overhead high-voltage transmission conductors and supporting structures connecting to the existing SCE Whirlwind Substation. These facilities would introduce new utility-related features, with the most prominent features being the vertical elements, such as transmission towers and substation structures. Although the project would alter the existing viewshed by introducing new built features, it would generally remain consistent with the transmission, renewable energy, and other utility infrastructure that characterizes the surrounding area.

In order to determine whether the project would substantially degrade the existing visual quality of the project site, this analysis compares the existing visual setting with visual simulations of the post-project visual conditions. As described above, three KOPs were selected for visual simulation. These KOPs are representative of views that would be experienced from numerous sensitive receptor locations in the project vicinity.

Visual simulations are provided in **Figures 4.1-2** through **4.1-4**. KOPs are described in **Table 4.1-1,** *Key Observation Points*. Potential visual impacts associated with the project, once operational, would vary by viewer location and are discussed below by KOP. The rating system and impact methodology are discussed in the "Rating Visual Quality" section above.

KOP-1. **Figure 4.1-2**, *KOP 1 - Existing and Simulated Views from Pacific Crest Trail Looking Southeast*, presents views from KOP-1 along the PCT looking southeast toward the project site and represents views of the project site available to recreationalists using the PCT. This KOP is 0.3 miles from the project site. Existing views are characterized by the relatively flat floor of the Antelope Valley and moderately dense creosote bush scrub and undulating mountain ranges in the background (see **Figure 4.1-2**). The existing views include transmission conductors, transmission

structures, and associated substations in the foreground and middle ground, and distant wind energy facilities in the background.

The post-development views of the project from KOP-1 reflect changes to the middle ground, consisting of lighter-colored built features that may be noticeable to trail users. While these changes may be noticeable, the facilities would be seen in the context of existing transmission and utility-related infrastructure. The project site would be particularly similar to the existing colors, forms, and textures of the Whirlwind Substation. From the vantage point of trail users, the project site would appear similar to or cohesive with the infrastructure already present in the area. Consequently, the overall visual character of the landscape would remain largely consistent with the existing conditions.

As shown and evaluated in **Table 4.1-4**, *Visual Quality Rating Analysis – KOP 1*, the pre-development visual quality score is 9 (average visual quality class), and the post-development score remains 9 (average visual quality class). Because the project would not change the visual quality rating or visual class of the view, impacts would be less than significant.

Figure 4.1-2: KOP-1 Existing and Proposed Conditions Along the Pacific Crest Trail

Existing: View of Project Site from Pacific Crest Trail



Proposed: View of Project Site from Pacific Crest Trail



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

Sensitive Receptors: Recreationalists.

Pre-development and post-development conditions are depicted in **Figure 4.1-2**.

Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Landform	**2**	**2**	**0**	
Explanation:	The foreground consists of relatively flat terrain sloping in a downward trend towards the project site with minimal topographical changes. The distant, undulating mountain ranges across the valley floor offer some interesting features.	The relatively flat terrain would remain; however, the development of the battery energy storage facility would be visible. The project would not block views of distant mountains or impact any local landforms.		Less than Significant
Detail:	The valley floor is characterized by flat terrain with numerous high-voltage transmission infrastructure and distant mountains in the background. The project would not substantially alter views of the hills in the background, resulting in impacts on landforms that are less than significant.			
Vegetation	**3**	**3**	**0**	
Explanation:	The foreground consists primarily of moderately dense desert vegetation consisting of shrubs, grasses, and dried groundcover that is consistent in forms, textures, and patterns. Similar low-lying scrub vegetation extends into the middle and background with limited variety in form and contrast.	The project would replace some vegetation; however, changes would be obscured by distance and intervening structures and vegetation.		Less than Significant
Detail:	In both pre-and post-development views, there is little variety in vegetation. Minimal unique features, such as taller plants with contrasting shape and texture, are scattered in the middle ground. The project is visible from the trail, but does not significantly modify the landscape. The project would replace relatively low-lying scrub habitat with battery energy storage systems, but would not remove any of the unique features found near the trail. The project site would be lighter in color than the surrounding natural habitat, but similar to the Whirlwind Substation features. From the vantage point of trail users, the project site would appear similar to or cohesive with the infrastructure already present in the area. Therefore, potential aesthetic impacts associated with vegetation removal would be less than significant.			

Sensitive Receptors: Recreationalists.
Pre-development and post-development conditions are depicted in **Figure 4.1-2**.

Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Water	**1**	**1**	**0**	
Explanation:	No surface water features are visible on the project site or in the vicinity.	Project development would not introduce water to or remove water from the visible landscape.		No Impact
Detail:	Surface water features are not included in pre- or post-development views. No visual impacts associated with surface water features would occur.			
Color	**2**	**2**	**0**	
Explanation:	The visual landscape is dominated by shades of tan, beige, light brown, and muted greens associated with vegetation and exposed soils. Similar colors extend into the middle ground, interspersed with gray transmission infrastructure. Distant mountain ranges display muted blue, gray, and beige hues, and white wind turbines are visible against the adjacent hillside.	The addition of battery energy storage enclosures would introduce lighter-colored built features, increasing the contrast and making the development more noticeable than the surrounding natural vegetation.		Less than Significant
Detail:	Although the project would introduce lighter-colored built features that would be noticeable from this viewpoint, the site would be seen in the context of existing transmission infrastructure and substation facilities. The overall color composition from this viewpoint would remain largely consistent with the existing built features adjacent to the site. Therefore, the project's impact related to color and visual contrast would be less than significant.			
Adjacent Scenery	**3**	**3**	**0**	
Explanation:	Adjacent scenery moderately enhances the overall visual quality through the presence of distant, undulating mountains and hills that generally surround the valley floor.	Adjacent scenery would continue to moderately enhance the overall visual quality once the project is developed. The project would primarily introduce low-lying features that would not interrupt views of the distant mountains.		Less than Significant

Sensitive Receptors: Recreationalists.
Pre-development and post-development conditions are depicted in **Figure 4.1-2**.

Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Detail:	Though the project would introduce additional built features into the area, these elements would generally blend in with the existing infrastructure in the area. The project would not substantially modify, obstruct, or interrupt views of adjacent scenery, including the distant mountains. Impacts on views of adjacent scenery would be less than significant.			
Scarcity	**2**	**2**	**0**	
Explanation:	Views of this area are common to the Antelope Valley.	Because views in the area are common, there would not be a significant change to their scarcity with the implementation of the project.		Less than Significant
Detail:	Existing views offered from the PCT, such as desert scrub, utility-related infrastructure, and distant rolling mountains, are not unique or unusual for the area. Therefore, the project's potential impacts on aesthetics, related to scarcity, would be less than significant.			
Cultural Modifications	**-4**	**-4**	**0**	
Explanation:	The landscape includes numerous cultural modifications, such as high-voltage transmission conductors, transmission structures, associated substations, and distant wind turbines. These features introduce vertical variety to the predominantly flat terrain. However, they create a visually cluttered and fragmented landscape that results in a view with strong disharmony.	The project would introduce additional cultural modifications, such as transmission structures and collector substations, into the landscape. However, these features are visually similar to the existing utility and energy infrastructure.		Less than Significant
Detail:	Existing cultural modifications are visible and prominent. The project would introduce BESS facilities and associated infrastructure; however, these project components would be generally consistent with the existing patterns of utility and energy infrastructure. Therefore, the project would not substantially increase the degree of visual disharmony already present within the viewshed; impacts would be less than significant.			
Totals:	**9**	**9**	**0**	**Less than Significant**

KOP 2. **Figure 4.1-3**, *KOP 2 - Existing and Simulated Views from Nearby Motorists Looking Southwest*, presents views from KOP-2, located at the intersection of Fisher Avenue and 168th Street West, looking southwest toward the project site. This viewpoint represents views available to motorists traveling westbound along Fisher Avenue and southbound along 168th Street West. The project site is located approximately 0.17 miles away from this viewpoint.

The pre-development views from KOP-2 are characterized by relatively flat, open terrain with distant mountain ranges visible along the horizon (see **Figure 4.1-3**). The foreground includes an unpaved sandy road bordered by mature creosote bush scrub, which extends across the foreground and middle ground. Existing manmade elements are prominent within the viewshed and include oil and gas infrastructure, high-voltage transmission towers and conductors, and scattered buildings. These manufactured features are visible throughout the foreground, middle ground, and background, and contribute to an already developed visual setting.

The post-development views of the project from KOP-2 would introduce the incident command center and tie-line structures, visible in the middle ground and background, while other project components remain screened by vegetation. The incident command center would introduce a rust-red color that would be noticeable, but generally compatible with the surrounding earth-toned landscape. The tie-line structures would extend above the horizon and may draw some attention; however, they would be viewed at a distance and in the context of the extensive utility-related infrastructure already present within the viewshed. As discussed in **Table 4.1-5**, *Visual Quality Rating Analysis – KOP-2*, the pre-development score is 7 (average visual quality class), and the post-development score is 7 (average visual quality class). Because the project would not change the visual quality rating, potential impacts from KOP-2 would be less than significant.

Figure 4.1-3: KOP-2 Existing and Proposed View from the Intersection of Fisher Avenue and 168th Street West

Existing: View of Project Site from the Intersection of Fisher Avenue and 168th Street West



Proposed: View of Project Site from the Intersection of Fisher Avenue and 168th Street West



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

Sensitive Receptors: Area residents, westbound motorists traveling along Fisher Avenue, and southbound motorists traveling along 168th Street.

Pre-development and post-development conditions are depicted in **Figure 4.1-3**.

Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Landform	**1**	**1**	**0**	
Explanation:	The flat valley floor characterizes the project site and the surrounding area. Distant mountain ranges for a low backdrop, providing some contrast and interesting features.	Project facilities would not alter the flat landscape, and the overall landform would not substantially block views of distant mountains.		Less than Significant
Detail:	The pre- and post-development view is dominated by flat valley terrain in the foreground and middle ground, transmission infrastructure in the middle and background, and distant mountains in the background. The landform would be generally unaltered with the installation of project facilities.			
Vegetation	**2**	**2**	**0**	
Explanation:	The foreground consists of an unpaved, sandy road with mature and moderately dense desert shrubs bordering the edges. The shrubs extend into the middle ground and background with minimal to no variety in form, texture, and pattern.	Views of project development and changes to onsite vegetation would be obscured by distance and intervening structures and vegetation. The project would not interrupt views of existing off-site vegetation.		Less than Significant
Detail:	In both pre-and post-development views, there is little variety in vegetation. Minimal unique features, such as taller plants with contrasting shape and texture, are present within the viewshed. The project is visible from this location, but does not significantly modify the landscape. From the vantage point of roadway users, the project site would appear similar to or cohesive with the infrastructure already present in the area. Therefore, potential aesthetic impacts associated with vegetation removal would be less than significant.			
Water	**0**	**0**	**0**	
Explanation:	No surface water features are visible on the project site or in the vicinity.	Project development would not introduce water to or remove water from the visible landscape.		No Impact
Detail:	Surface water features are not included in pre- or post-development views. No visual impacts associated with surface water features would occur.			

Sensitive Receptors: Area residents, westbound motorists traveling along Fisher Avenue, and southbound motorists traveling along 168th Street.
Pre-development and post-development conditions are depicted in **Figure 4.1-3**.

Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Color	**2**	**2**	**0**	
Explanation:	Muted shades of brown, beige, tan, and green dominate the foreground and middle ground by the unpaved road, dried groundcover, and desert scrub. Low mountains in the background display muted blue and gray hues, blending in with the sky. Dark gray and reflective silver associated with built features are prominent in the middle ground and horizon.	The project components would be obscured by off-site vegetation with minimal views of the incident command center and tie-line structures. The minimal view of these features would be similar to the existing transmission infrastructure and natural earth tones. The project would add some contrasting vertical colors against the blue-hued mountain range.		Less than Significant
Detail:	Muted earth tones of green, brown, and tan dominate the foreground and middle ground. The project would introduce a rust-red incident command center to the middle ground and gray tie-line structures into the background; however, these features would be primarily screened by intervening vegetation and viewed in the context of existing utility infrastructure. While the new facilities may be noticeable to local roadway users, they would not substantially alter the overall color palette or visual character of the viewshed. Therefore, potential impacts associated with color and visual contrast would be less than significant.			
Adjacent Scenery	**2**	**2**	**0**	
Explanation:	Adjacent scenery moderately enhances the overall visual quality through the presence of distant mountains. However, views of the mountains are interrupted by existing utility infrastructure.	Adjacent scenery would continue to moderately enhance the overall visual quality once the project is developed. The project would primarily introduce low-lying features that would not substantially interrupt views of the distant mountains.		Less than significant
Detail:	Though the project would introduce additional built features into the area, these elements would generally blend in with the existing infrastructure in the area. The project would not substantially modify, obstruct, or interrupt views of adjacent scenery, including the distant mountains. Impacts on views of adjacent scenery would be less than significant.			

Sensitive Receptors: Area residents, westbound motorists traveling along Fisher Avenue, and southbound motorists traveling along 168th Street.
Pre-development and post-development conditions are depicted in **Figure 4.1-3**.

Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Scarcity	**2**	**2**	**0**	
Explanation:	Views of the mountains are quite distant and are common to the Antelope Valley.	Because views in the area are common, there would not be a significant change to their scarcity with the implementation of the project.		Less than Significant
Detail:	Existing views offered from this KOP are typical of the area. Visible features are not unique or unusual. Project development would not block views of hills or mountains. Potential impacts associated with scarcity would be less than significant.			
Cultural Modifications	**-2**	**-2**	**0**	
Explanation:	The landscape includes numerous cultural modifications, such as oil and gas infrastructure, high-voltage transmission towers and conductors, and interspersed buildings. These features create a visually cluttered landscape that results in a view with some disharmony.	The project would introduce additional cultural modifications, such as transmission structures, into the landscape. However, these features are visually similar to the existing utility and energy infrastructure		Less than Significant
Detail:	Existing cultural modifications are visible and prominent. The project would introduce BESS facilities and associated infrastructure; however, these project components would be generally consistent with the existing patterns of utility and energy infrastructure. Therefore, the project would not substantially increase the degree of visual disharmony already present within the viewshed; impacts would be less than significant.			
Totals:	**7**	**7**	**0**	**Less than Significant**

KOP 3. **Figure 4.1-4**, *KOP 3 - Existing and Simulated Views from Rosamond Boulevard and 170th Street West*, presents views from KOP-3, located at the intersection of Rosamond Boulevard and 170th Street West, looking northwest toward the project site. This viewpoint represents views available to motorists traveling westbound along Rosamond Boulevard and northbound along 170th Street West. The project is located adjacent to this viewpoint.

The pre-development views from KOP-3 show a relatively flat valley landscape with moderately dense desert scrub vegetation and distant mountain ranges that form a continuous backdrop (see **Figure 4.1-4**). Natural elements within the viewshed are characterized by muted earth tones, while extensive utility- and energy-related infrastructure, including paved roadways, high-voltage transmission towers and conductors, and distant wind turbines, introduce prominent gray and white tones. These manufactured features are visible throughout the foreground, middle ground, and background, and contribute to a visually varied landscape which is strongly influenced by existing utility-related development.

While the post-development views of the project from KOP-3 would be mostly screened by intervening vegetation, the project would introduce a narrow band of lighter-colored built features within the background (see **Figure 4.1-4**). However, these elements would be viewed in the context of existing utility-related infrastructure and would generally be consistent with the colors and patterns of those facilities. As discussed in **Table 4.1-6**, *Visual Quality Rating Analysis – KOP 3*, the pre-development score is 11 (average visual quality class), and the post-development score is 11 (average visual quality class); therefore, the view would remain in the same visual class. With no change in scores, potential visual impacts from KOP-3 would be less than significant.

Figure 4.1-4: KOP-3 Existing and Proposed Views from the Intersection of Rosamond Avenue and 170th Street West

Existing: View of Project Site from the Intersection of Rosamond Avenue and 170th Street W



Proposed: View of Project Site from the Intersection of Fisher Avenue and 168th Street W



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

Sensitive Receptors: Motorists traveling westbound along Rosamond Boulevard, and northbound along 170th Street West.

Pre-development and post-development conditions are depicted in **Figure 4.1-4**.

Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Landform	**3**	**3**	**0**	
Explanation:	The foreground and middle ground have relatively flat terrain with minimal topographic relief. Rolling to undulating mountain ranges provide a backdrop in the distance and are the primary natural landform feature.	Project facilities would not alter the relatively flat landscape, and the overall landform would not change.		Less than Significant
Detail:	The pre- and post-development views are dominated by flat valley terrain in the foreground and middle ground with rolling to undulating mountains in the background. Views of the project would be visible in the middle ground, but changes to landform would be inconspicuous. Potential visual impacts on landform within the viewshed would be less than significant.			
Vegetation	**3**	**3**	**0**	
Explanation:	Scattered mature desert scrub and low-growing shrubs are distributed across the foreground and middle ground. The vegetation is generally uniform in height, with limited variation in form, texture, and pattern.	Project development would require removal of vegetation; however, natural vegetation would be maintained where feasible. From this location, changes to on-site vegetation would be subtle due to distance and roadside vegetation providing visual screening.		Less than Significant
Detail:	In both pre-and post-development views, there is little variety in vegetation. Minimal unique features, such as taller plants with contrasting shape and texture, are present. The project is visible from this viewpoint, but does not significantly modify the landscape. The project site would be lighter in color than the surrounding natural habitat, but similar to the Whirlwind Substation features. From the vantage point of motorists, the project site would appear similar to or cohesive with the infrastructure already present in the area. Therefore, potential aesthetic impacts associated with vegetation removal would be less than significant.			
Water	**0**	**0**	**0**	
Explanation:	No surface water features are visible on the project site or in the vicinity.	Project development would not introduce water to or remove water from the visible landscape.		No Impact

Sensitive Receptors: Motorists traveling westbound along Rosamond Boulevard, and northbound along 170th Street West.

Pre-development and post-development conditions are depicted in **Figure 4.1-4**.

Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Detail:	Surface water features are not included in pre- or post-development views. No visual impacts associated with surface water features would occur.			
Color	**3**	**3**	**0**	
Explanation:	The landscape is dominated by muted shades of tan, beige, light brown, and green associated with exposed soils and vegetation. The paved roadway in the foreground introduces gray and light tan tones. Distant mountain ranges display blue and brown tones. Existing transmission infrastructure introduces contrasting gray tones, and white wind turbines provide additional visual contrast against the darker mountain backdrop.	The addition of battery energy storage enclosures would introduce lighter-colored built features, increasing the contrast and making the development more noticeable than the surrounding natural vegetation. These colors would be generally consistent with existing utility-related infrastructure in the viewshed.		Less than Significant
Detail:	Gray tones associated with the paved roadway dominate the foreground, while muted earth tones of green, brown, and tan characterize the middle ground and background. The project would introduce a narrow band of lighter-colored built features within the background; however, these elements would be viewed in the context of existing utility-related infrastructure and would generally be consistent with the colors of those facilities. In addition, the project site would be partially screened by distance and intervening vegetation. The project would not substantially alter the overall color palette of the landscape or obstruct views of the surrounding mountains. Potential impacts associated with color and visual contrast would be less than significant.			
Adjacent Scenery	**2**	**2**	**0**	
Explanation:	Although the background mountains to the northwest enhance the view, they are outside the distance of influence (5 miles). Adjacent scenery does not enhance or detract substantially from views.	Mountains would remain visible and would not be substantially obstructed by project components.		Less than Significant

Sensitive Receptors: Motorists traveling westbound along Rosamond Boulevard, and northbound along 170th Street West.
Pre-development and post-development conditions are depicted in **Figure 4.1-4**.

Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Detail:	Though the project would introduce additional built features into the area, these elements would generally blend in with the existing infrastructure in the area. The project would not substantially modify, obstruct, or interrupt views of adjacent scenery, including the distant mountains. Impacts on views of adjacent scenery would be less than significant.			
Scarcity	**2**	**2**	**0**	
Explanation:	Views in this area are common to the rural portions of the Antelope Valley.	Mountains would remain visible. Project components would not block hills or mountains from view.		Less than Significant
Detail:	Existing views offered from the KOP are distinctive though relatively typical of the area. Project development would not substantially alter or disrupt the views of hills or mountains. Potential impacts associated with scarcity would be less than significant.			
Cultural Modifications	**-2**	**-2**	**0**	
Explanation:	Cultural modifications include roadways, high-voltage transmission conductors and lattice structures, and wind turbines in the distant background.	The project would introduce manufactured elements to the background; however, project components would blend in with existing infrastructure and would not attract attention.		Less than Significant
Detail:	Existing cultural modifications are visible and prominent. The project would introduce BESS facilities and associated infrastructure; however, these project components would be consistent with the existing patterns of utility and energy-related infrastructure. Therefore, the project would not substantially increase the degree of visual disharmony already present within the viewshed; impacts would be less than significant.			
Totals:	**11**	**11**	**0**	**Less than Significant**

Factors Reducing Visual Impacts

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

- The project site is generally flat and would reduce the need for grading and visible alteration of landforms.
- Significant electrical transmission infrastructure is located adjacent to the project site, resulting in tie-lines being short in length.

- The project site is not located in a viewshed that is of high scenic quality.
- The roads in the immediate project area are lightly traveled, and none have scenic designations. The lack of scenic designations reduces viewer sensitivity and expectations for scenic landscapes.

Summary

As shown in **Tables 4.1-4,** *Visual Quality Rating Analysis – KOP 1,* through **4.1-6,** *Visual Quality Rating Analysis – KOP 3,* implementation of the project would modify features that characterize the visual quality of the viewshed from the selected viewpoints; however, these changes would not be substantially altered such that they result in a significant impact. The project would introduce lighter-colored built features and darker tie-line structures up to 200 feet in height, which would be noticeable from local roadways. Although these project components would introduce additional visual contrast into the viewshed, the degree of visual change would diminish with distance. In addition, the visual change associated with the introduction of the BESS facilities and associated infrastructure would be partially screened by intervening vegetation and viewed in the context of existing utility- and energy-related development that are prominent within the landscape. Thus, the limited views of project components would not substantially degrade the existing visual character or quality of public views of the site.

Although the project would not substantially degrade public views, new utility-related infrastructure would replace the currently undeveloped project site. New battery energy storage enclosures, on-site collector substations, transmission towers and conductors, and internal paved roadways would replace areas with desert scrub vegetation consisting of muted earth tones. The effects of the project would result in a visual conflict with adjacent properties zoned for residential; thus, a potentially significant impact on aesthetics would occur.

Implementation of **MM 4.1-1** through **MM 4.1-5** would further reduce visual impacts. These measures would ensure that the project site is properly maintained and free of excessive or unorderly debris and trash, the project color scheme blends in with the colors found within the natural landscape and is non-reflective, and vegetation removal would be limited to the greatest extent feasible, allowing for a natural screening of project components. In addition, privacy fencing and appropriate setbacks would be incorporated, further reducing the visibility of project features from adjacent parcels zoned for residential uses. With the implementation of **MM 4.1-1** through **MM 4.1-5**, project impacts on visual resources would be less than significant.

Decommissioning

Near the end of the project's anticipated operational life of up to 35 years, the project proponents would determine whether the project should be decommissioned and deconstructed or if it would seek an extension of its operation and the appropriate permitting pathways. If any portion of the project site is decommissioned, the BESS facilities would be shut down, removed and repurposed off-site, recycled, or disposed of in a landfill in accordance with applicable regulations. All foundations, site fencing, and driveways would be removed and stabilized to facilitate conversion to other uses in accordance with the applicable land use regulations in effect at that time.

Decommissioning activities and the associated visual impacts would be similar in nature to those associated with construction. A Decommissioning Plan would be developed in accordance with the requirements of the appropriate governing authorities as well as all applicable local, state, and federal requirements and BMPs. Potential visual impacts during project decommissioning would be short-term in nature and would not result in significant impacts. Visual impacts during project decommissioning would be less than significant.

SCE Whirlwind Substation Upgrades

As described above, SCE would construct two overhead tie-lines from the POCOs located on the project site to the proposed dead-end structures within the existing Whirlwind Substation. The tie-lines would introduce additional utility structures and lines connecting the project to the Whirlwind Substation. The structures would range between 140 and 200 feet tall. The SCE Whirlwind Substation tie-lines are included in the KOP and visual simulation analysis provided for the whole project above. Overall, the additional transmission structures and conductors would be consistent with the existing utility-related features present. These additional features would not substantially degrade the existing visual character or quality of the surrounding area. Impacts would be less than significant.

Mitigation Measures

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

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

b. The project proponent/operator shall erect signs with contact information for the project proponent/operator's maintenance staff at regular intervals along the site boundary, as required by the Kern County Planning and Natural Resources Department. Maintenance staff shall respond within two (2) weeks to resident requests for additional cleanup of debris. Correspondence with such requests and responses shall be submitted to the Kern County Planning and Natural Resources Department.

c. The project proponent/operator shall implement a regular trash removal and recycling program on an ongoing basis during construction, operation, and decommissioning 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 the final plans.

d. Trash and food items shall be contained in closed containers to be locked 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 building permits, the project proponent/operator shall submit a proposed color scheme and treatment plan for review and approval by the Kern County Planning and Natural Resources Department, which will ensure project facilities, including operations and maintenance buildings, tie-line poles, etc., blend in with the colors found in the natural landscape. Color treatments shall result in matte or nonglossy/non-reflective finishes.

MM 4.1-3: Wherever possible, within the proposed project boundary, native vegetation shall remain undisturbed unless mowing or grading is necessary for placement of project components. 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 native vegetation within and adjacent to the proposed project boundary shall remain in place as permitted by the County's Fire Code. Prior to the commencement of project construction 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, but is not limited to, the following:

a. In areas supporting native vegetation that would be temporarily disturbed during construction and decommissioning (including grading or removal of root balls resulting in loose soil), the ground surface shall be recontoured to natural grade (if the grade was modified during the temporary disturbance activity) and revegetated with a native seed mix or native plants or allowed to re-vegetate with the existing native seed bank in topsoil where possible to establish revegetation. Revegetation efforts shall be consistent with all Regional Water Quality Control Board (RWQCB) and Kern County Fire Department requirements outlined in permits or conditions of project approval.

b. Revegetation would occur prior to or during seasonal rains to promote passive restoration of the area to pre-project conditions, if feasible. However, if invasive plant species were present, these species would not be restored. An area subjected to temporary ground disturbance means any area that is disturbed but will not be subjected to further disturbance as part of the project. This does not include areas already designated as urban/developed. Areas that contain permanent project features such as security fencing, substations, BESS facilities, stormwater basins, perimeter and maintenance roads do not require revegetation. Prior to seeding temporary ground disturbance areas, the Lead Biologist will review the seeding palette to ensure that no seeding of invasive plant species, as identified in the most recent version of the California Invasive Plant Inventory for the region, will occur.

c. The plan must include but is not limited to: (1) the approved California native seed mix that will be used on-site, (2) a timeline for seeding the site, (3) details of which areas are to be revegetated, (4) a list of the consultation efforts

completed, and (5) the methods and schedule for installation of fencing that complies with wildlife agency regulations, and a clear prohibition of the use of toxic rodenticides.

d. 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 at the same time).

e. Vegetation/ground cover shall be continuously maintained on the site by the project operator to maintain fire safety requirements.

f. Revegetation of temporarily disturbed areas shall be monitored annually for a three-year period following restoration activities that occur post-construction and post-decommissioning until vegetative cover is evenly established over 70 percent of disturbed and exposed areas of soil. In areas that naturally have low vegetative coverage (e.g., deserts), 70 percent of the natural conditions of local undisturbed areas are acceptable. Based on annual monitoring visits during the three-year period, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for the three-year period. Should efforts to reach a 70 percent rate not be feasible through consultation with a qualified botanist, evidence of such shall be submitted to the Kern County Planning and Natural Resources Department, and an appropriate coverage rate shall be established. 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.

MM 4.1-4: The project proponent shall install fence slats or similar view-screening materials, as approved by the Kern County Planning and Natural Resources Department, in on-site perimeter fencing for the portion of the battery energy storage system that abuts parcels zoned for residential use, including E (Estate Residential), unless the adjacent property is owned by the project proponent (to be verified by the Kern County Planning and Natural Resources Department) or a public or private agency that has submitted correspondence to the Kern County Planning and Natural Resources Department requesting this requirement to be waived. Should the project proponent sell the adjacent property, slat fencing or similar view-screening materials shall be installed prior to the sale.

MM 4.1-5: For portions of the project that abut residentially zoned parcels not controlled by the project proponent, a setback as specified on the approved site plan, and no less

than 50 feet from the approved project boundary, which may include the centerline of any public roadway or easement, is required. If a public roadway or easement does not exist between the project site and the residentially zoned property, the 50-foot setback shall be measured from the edge of the shared property line. The project proponent shall be responsible for continued dust control and weed maintenance within this setback area. No battery energy storage arrays, substations, or operating equipment shall be located in or stored in the identified setback area.

Level of Significance after Mitigation

Impacts would be less than significant.

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.

The project is designed for remote operation and would be available to charge or discharge electric energy year-round, 24 hours per day, seven days per week. A comprehensive monitoring and security system would be included. While the project would be operated remotely, some staff would be needed on-site during routine operations. On-site staff would be required for security and to perform inspections, maintenance, compliance management activities, and administrative management of the site.

Construction

Lighting

According to the County's Noise Ordinance, construction is allowed during the hours of 6:00 a.m. to 9:00 p.m., Monday through Friday and 8:00 a.m. and 9:00 p.m. on weekends. Construction of the project would generally occur from Monday through Friday during daytime hours; however, additional workdays or extended hours may be required to meet project schedule commitments.

Lighting is not planned for typical construction activities because construction activities would occur primarily during daylight hours. If nighttime construction is required, artificial lighting may cause unwanted light trespass onto adjacent properties or brighten the night sky. Nighttime activities requiring illumination may include material staging, refueling equipment, and commissioning. The primary purposes of nighttime lighting would be to protect the safety of the construction workers and the security of equipment, materials, and vehicles. As required by **MM 4.1-6**, all nighttime lighting would be directed downward and shielded to focus illumination on the desired work areas only, and to prevent light spillage onto adjacent properties. With the implementation of **MM 4.1-6**, construction lighting impacts would be less than significant.

Glare

Most of the proposed construction activities are planned to occur during daylight hours. During the construction period, the presence of up to 200 active construction workers would increase vehicle traffic in the area. This influx could temporarily increase the potential for glare in the project site due to the presence of reflective vehicles and materials. However, any glare would likely be intermittent, as the sources would shift locations throughout the site as construction progresses. As a result, the impact from construction vehicles would be less than significant.

Operation

Lighting

As described in **Chapter 3**, *Project Description*, night lighting would be installed for safety, security, and maintenance, as well as motion-sensitive and infrared cameras and other monitoring equipment mounted on poles up to 25 feet in height. Before the incorporation of mitigation measures, the project would introduce a new source of light that would adversely affect nighttime views in the area, thereby resulting in a potentially significant impact. However, implementation of **MM 4.1-6** would require the development of a lighting plan, demonstrating compliance with the applicable provisions of Kern County's Dark Skies Ordinance. The lighting plan would ensure that lighting is limited to the minimum necessary for safety and security, directed downward, fully shielded, and designed to prevent light trespass onto adjacent properties and roadways. In addition, lenses and bulbs would not be exposed or extend below the shields. With the implementation of **MM 4.1-6,** potential impacts associated with nighttime lighting would be less than significant.

Glare

Glare can result in visual hazards and temporary loss of vision. The hazard level of glare depends on the level of visual annoyance to the observer. Sources of daytime glare could include direct beam sunlight and reflections from architectural coatings, glass, and other reflective surfaces. The battery energy storage facilities and collector substations could generate glare that could be received by motorists during project operations. As described in **Chapter 3**, *Project Description*, the battery energy storage facilities would incorporate non-reflective materials and would not generate glare during daytime hours. To further reduce glare potential, the project would be required to implement **MM 4.1-2,** which requires the use of non-reflective materials when feasible. The collector substations would include vertical steel components of low potential reflectivity. With the incorporation of **MM 4.1-2**, the potential impacts regarding new sources of glare would be less than significant.

Decommissioning

Decommissioning activities would be similar in nature and duration as those associated with construction activities. Decommissioning activities would generally occur during daytime hours; however, non-daylight hours may be necessary. In the event that work is performed between the hours of 9:00 p.m. to 6:00 a.m., construction crews would use minimal illumination in order to perform the work safely. Lighting would be directed downward and shielded to focus illumination

on the desired work areas only, and to prevent light spillage onto adjacent properties. Lighting is not planned for typical decommissioning activities because these activities would occur primarily during daylight. Per **MM 4.1-6**, any nighttime decommissioning would use lighting designed to provide the minimum illumination needed, thereby minimizing adverse impacts on any nearby properties or roadways. As a result, the potential impacts related to nighttime lighting and glare would be less than significant.

SCE Whirlwind Substation Upgrades

Construction of the SCE Whirlwind Substation upgrades and tie-lines may require temporary nighttime lighting for safety should activities occur during non-daylight hours. 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 operation, lighting would be similar to existing Whirlwind Substation safety or security lighting and would comply with applicable standards or BMPs. In addition, the installed facilities would utilize consistent materials, colors, and non-reflective finishes. Therefore, impacts related to nighttime lighting and daytime glare would be less than significant.

Mitigation Measures

Implementation of **MM 4.1-2** and **MM 4.1-6** would be required.

MM 4.1-6: Prior to the issuance of building permits, the project proponent shall demonstrate to the Kern County Planning and Natural Resources Department, through the submittal of a lighting plan, 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 properties. Lenses and bulbs shall not be exposed or extend below the shields.

Level of Significance after Mitigation

Impacts would be less than significant.

4.1.5 Cumulative Setting Impacts and Mitigation Measures

As presented in **Chapter 3**, *Project Description*, there are five projects included in the evaluation of cumulative impacts, including four of which involve a battery energy storage component. Collectively, these projects have the potential to contribute to cumulative visual impacts within the Antelope Valley. Therefore, the geographic scope for cumulative impacts on aesthetics and visual resources is considered the Antelope Valley. In particular, the scarcity criterion could be adversely affected by the project when considered in combination with other cumulative projects. Collectively, these projects would incrementally reduce the availability of undeveloped landscapes

and unobstructed views of regional topographical features. New solar photovoltaic facilities would convert large natural areas of vegetated desert habitat to developed uses, while transmission infrastructure connecting energy-generating projects to substations would introduce additional vertical elements into the landscape. Together, these projects would incrementally alter the visual quality and character of the valley. The project would introduce new utility-related facilities into an area that already contains substantial utility and energy infrastructure. Although **MM 4.1-1** through **MM 4.1-5** would reduce project-specific visual impacts, the project, in combination with other reasonably foreseeable projects, would incrementally contribute to considerable cumulative visual impacts within the Antelope Valley. Therefore, the project's cumulative impact related to visual character and quality would be significant and unavoidable.

The project would result in less-than-significant impacts related to light and glare with implementation of **MM 4.1-2** and **MM 4.1-6,** which require compliance with Kern County's Dark Skies Ordinance. Similarly, other reasonably foreseeable projects would be subject to Kern County's Dark Skies Ordinance and comparable mitigation measures. Accordingly, the project's contribution to cumulative light and glare impacts would not be cumulatively considerable, and cumulative impacts related to light and glare would be less than significant.

There are no federal, state, or locally recognized scenic vistas within or near the project site. Therefore, when considered in combination with other reasonably foreseeable projects, the project would not contribute to a significant cumulative impact on a scenic vista. Similarly, the project would not damage scenic resources within a state scenic highway, as the project would not be visible from any Officially Designated State Scenic Highway, as there are no Officially Designated State Scenic Highways in the vicinity of the project site. As such, the project would not contribute to cumulative impacts on scenic vistas and scenic resources. No cumulative impacts associated with scenic vistas or scenic resources would occur.

SCE Whirlwind Substation Upgrades

The SCE Whirlwind Substation and tie-line corridors are not located within the vicinity of a federal, state, or locally designated scenic vista and, therefore, do not have the potential to contribute to cumulative impacts involving a scenic vista. Similarly, upgrades to the Whirlwind Substation and development of the tie-line corridors would not be visible from an Officially Designated State Scenic Highway and, therefore, do not have the potential to contribute to cumulative impacts on scenic resources that are visible from an Officially Designated State Scenic Highway.

The additional transmission conductors and structures would be similar in height, color, surface material, and design as the existing development at the Whirlwind Substation. Therefore, the upgrades and transmission interconnection standing alone would not contribute to significant cumulative visual impacts. Therefore, the cumulative impact related to visual character and quality would be less than significant.

Any new sources of light and glare would be similar to existing Whirlwind Substation safety or security lighting and would comply with applicable standards or BMPs. In addition, the installed

facilities would utilize consistent materials, colors, and non-reflective finishes. Therefore, the contribution of the SCE Whirlwind Substation upgrades to cumulative light and glare impacts would not be cumulatively considerable. Cumulative impacts related to light and glare would be less than significant.

Mitigation Measures

Implementation of **MM 4.1-1** through **MM 4.1-6** would be required.

Level of Significance after Mitigation

Despite the implementation of **MM 4.1-1** through **MM 4.1-6**, cumulative impacts related to visual character would be significant and unavoidable. Cumulative impacts related to light and glare would be less than significant. No cumulative impact associated with scenic vistas and scenic resources would occur.

Section 4.2

Agriculture and Forestry Resources

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Section 4.2
Agriculture and Forestry Resources

4.2.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the affected environment and regulatory settings for agriculture and forestry resources for the project. It also describes potential impacts on agricultural and forestry resources that may result from implementing the project, including mitigation measures that would reduce these impacts, if applicable. This section incorporates information from a variety of sources, including information provided in the 2024 Kern County Agricultural Crop Report prepared by the Kern County Department of Agriculture and Measurement Standards (Kern County 2025a).

4.2.2 Environmental Setting

Regional Setting

Located at the southern end of California's Central Valley, Kern County consistently ranks among the top five most-productive agricultural counties in the United States (California EDD 2026). Kern County covers approximately 8,163 square miles (5,224,258 acres), including 1,280 square miles (819,405 acres) of harvested agricultural land and approximately 2,469 square miles (1,580,000 acres) of grazing land (Kern County 2025a). According to the 2024 Kern County Agricultural Crop Report, agriculture in Kern County was worth approximately $7.96 billion in 2024, which is a decrease of 8 percent from the 2023 crop value of $8.62 billion. The top five commodities for 2024 were grapes, citrus, pistachios, almonds, and carrots, which made up more than $5 billion (approximately 64 percent) of the total value, with the top 20 commodities making up 91 percent of the total value (Kern County 2025a).

Like many agricultural-based jurisdictions in California, Kern County has a growing population and must balance urbanization and the loss of farmland. As shown in **Table 4.2-1**, *2020–2022 Farmland Conversion in Kern County*, approximately 12,383 net acres of Important Farmland, including all of the categories of important farmland, were converted to grazing or nonagricultural uses between 2020 and 2022. Approximately 2,898 net acres were converted from agricultural, including grazing, to urban/built-up land from 2020 to 2022 (DOC 2026a). Farmland designations are defined below in **Section 4.2.3**, *Regulatory Setting*.

The population of Kern County is approximately 922,529 as of July 1, 2024, which is a 1.5 percent population increase compared to the estimate of 909,235 as of April 1, 2020 (U.S. Census Bureau 2024). The anticipated growth will likely further decrease the amount of agricultural land in Kern County; however, the conversion of agricultural land is affected by numerous factors beyond population growth and urban development. Agricultural 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 which crops are grown and which lands go in and out of production. Additionally, most conversions of Prime or Farmland of Statewide Importance agricultural lands to nonagricultural uses are occurring within the planned development footprint of Metropolitan Bakersfield. Very little conversion of the most productive agricultural lands has occurred to date in outlying areas of the County.

TABLE 4.2-1: 2020–2022 FARMLAND CONVERSION IN KERN COUNTY

Land Use Category	Total Acres 2020	Total Acres 2022	Net Acreage Changed
Prime Farmland	567,064	557,531	-9,533
Farmland of Statewide Importance	207,939	205,790	-2,149
Unique Farmland	93,709	93,008	-701
Farmland of Local Importance	0	0	0
IMPORTANT FARMLAND SUBTOTAL	868,712	856,329	-12,383
Grazing Land	1,857,261	1,866,746	9,485
AGRICULTURAL LAND TOTAL	**2,725,973**	**2,723,075**	**-2,898**

Source: DOC 2026a.

Local Setting

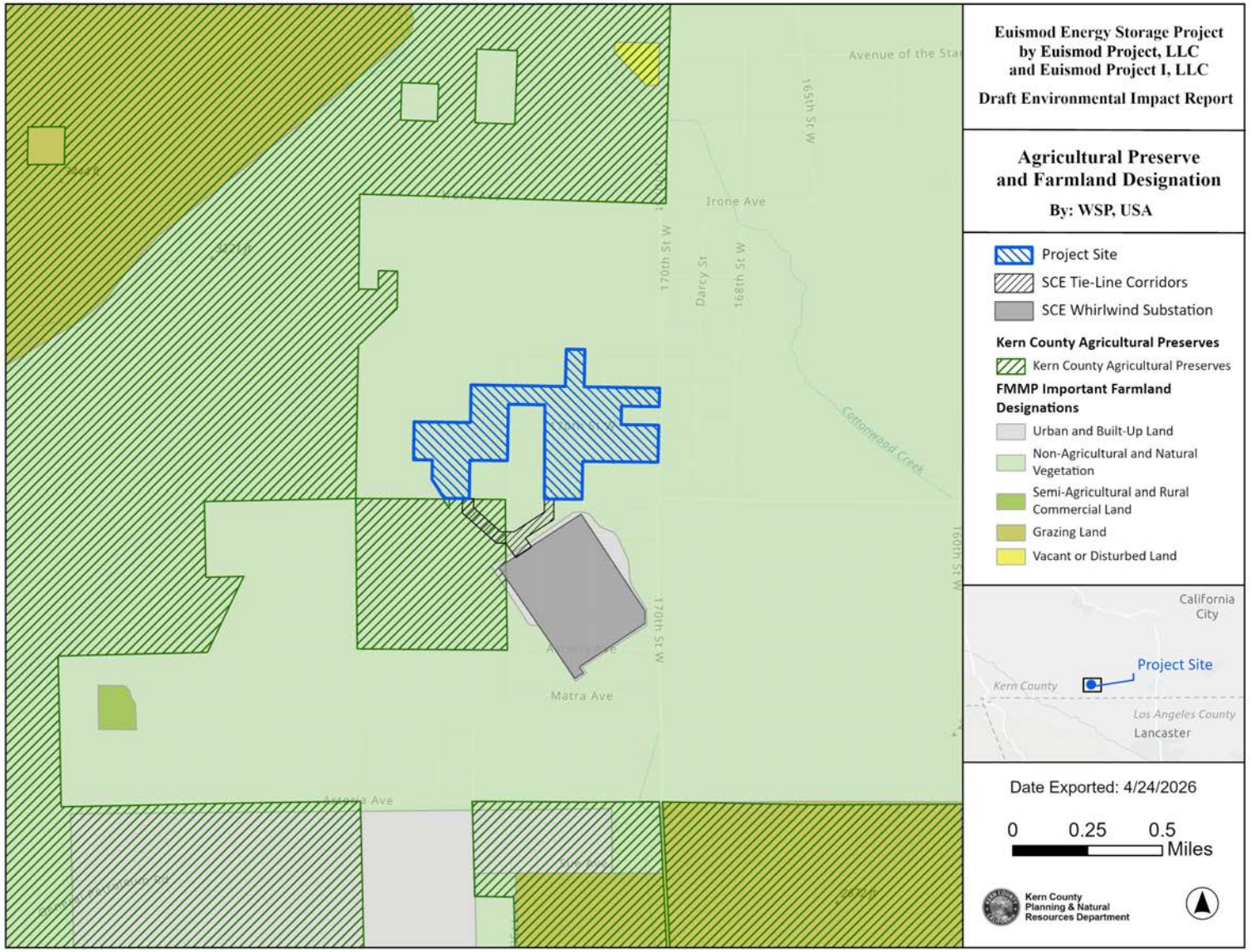
The project site is located in the southeastern portion of Kern County within the administrative boundaries of the Kern County General Plan (KCGP) and Willow Springs Specific Plan. The project site is primarily designated for residential use under Map Codes 5.6, 5.7, and 5.75 and zoned predominantly as District E (Estate) with varying combining districts, as described in **Chapter 3**, *Project Description.* To allow for zoning consistency with the existing KCGP designations, the project proponents have requested Zone Classification Changes (ZCCs) to change the existing base zoning district (excluding their combining zone classification) to the A (Exclusive Agriculture) District, except for those parcels that are already zoned A.

The Southern California Edison (SCE) Whirlwind Substation and tie-line corridors are on lands designated Map Code 5.6. These lands are zoned E (Estate) and include combining districts RS (Residential Suburban) and FPS (Floodplain Secondary).

The project site and surrounding areas are primarily characterized as creosote bush scrub and are interspersed with existing solar and wind energy generation facilities, communications infrastructure, and agricultural land uses. As shown in **Figure 4.2-1**, *Agricultural Preserve and Farmland Designation*, the project site, including the Whirlwind Substation and tie-line corridors, 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 or Natural Vegetation (DOC 2022).

Furthermore, none of the project's parcels are subject to a Williamson Act Land Use contract or within the boundaries of the Kern County Agricultural Preserve (Kern County 2025b, see **Figure 4.2-1**, *Agricultural Preserve and Farmland Designation*). A Petition of Exclusion to remove the project site from the Agricultural Preserve is not required, as battery energy storage systems (BESSs) are an allowable use on land zoned A, subject to obtaining a conditional use permit, under Kern County Zoning Ordinance Section 19.12.030. As such, the project would not alter the status of the Agricultural Preserve.

Figure 4.2-1: Agricultural Preserve and Farmland Designation



Although no farming has been known to occur on the project site for at least the past 10 years, aerial imagery dating back to 2014, as well as other site observations, indicate that grazing activities may have occurred (**Appendix C1**). Additionally, a review of historic crop mapping and pesticide permitting and use data from the Kern County Department of Agriculture and Measurement Standards indicates that no agricultural-related activities have occurred on the project site (Kern County 2026a, 2026b).

4.2.3 Regulatory Setting

Federal

Farmland Protection Policy Act (7 United States Code 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. Additionally, the act directs federal programs to be compatible with state and local policies for the protection of farmland.

Under the FPPA, the term "farmland" includes Prime Farmland, Unique Farmland, and Farmland of Statewide 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. The 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 two years.

The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or affect the property rights of owners in any way. 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 (NRCS 2024).

State

California Department of Conservation, Division of Land Resource Protection

The DOC applies the Natural Resources Conservation Service (NRCS) soil classifications to identify agricultural lands. These agricultural designations are used in planning for the present and future of California's agricultural land resources. The DOC uses a minimum mapping unit of 10 acres; parcels that are smaller than 10 acres are absorbed into the surrounding classifications.

The list below describes the categories mapped by the DOC through the Farmland Mapping and Monitoring Program (FMMP) (DOC 2024a). 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 waterbodies 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, open-space, or other compatible 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 and is voluntary for landowners. The landowner commits the parcel to a 10-year period wherein conversion of the land to a nonagricultural use is prohibited. Each year, the contract automatically

renews unless a notice of nonrenewal or cancellation is filed. In return, the land is taxed at a rate based on the actual use (that is, agricultural production), as opposed to its unrestricted market value. A landowner can apply for immediate cancellation, provided that the proposed immediate cancellation application is consistent with the cancellation criteria stated in the California Land Conservation Act and those adopted by the affected county or city (DOC 2024b).

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 2024b).

California Government Code Section 51238 states that county boards of supervisors may impose conditions on lands or land uses to be placed within preserves to permit and encourage compatible uses in conformity with Section 51238.1. The Kern County Agricultural Preserve Standard Uniform Rules specify that the construction and operation of electric utility facilities and similar public service facilities are compatible uses in agricultural preserves. 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.
- 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 statewide public policy. 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 a county. The 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 (DOC 2026b).

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

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to agricultural and forestry resources. The goals, policies, and implementation measures in the KCGP and the Willow Springs Specific Plan related to agricultural and forestry resources that are applicable to the project are provided below.

Kern County General Plan

The KCGP states that agriculture is vital to the County's future and sets goals to protect important agricultural lands for future use and prevent the conversion of prime agricultural lands to other uses (for example, industrial or residential). The plan includes four 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 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; 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 that occur in an established County water district.

  Uses shall include the following: livestock grazing; dry land farming; ranching facilities; wildlife and botanical 54 preserves; and timber harvesting; one single-family dwelling unit; irrigated croplands; water storage or groundwater recharge areas; mineral; aggregate; petroleum exploration and extraction; recreational activities, such as gun clubs and guest ranches; and land within development areas subject to significant physical constraints.

- **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.

  Uses shall include the following: livestock grazing; dry land farming; ranching facilities; wildlife and botanical preserves; timber harvesting; one single-family dwelling unit; irrigated croplands; water storage or groundwater recharge areas; mineral; aggregate; petroleum exploration and extraction; recreational activities, such as gun clubs and guest ranches; and land within development areas subject to significant physical constraints.

- **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, 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.

  Additionally, the designation of 8.5 (Resource Management) can be used for agricultural uses such as dry-land farming, ranch facilities, irrigated croplands, and livestock grazing.

The policies, goals, and implementation measures in the KCGP for agricultural and forestry resources applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

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

1.9 Resource

Goals

Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.

Goal 2: Protect areas of important mineral, petroleum, and agricultural resource potential for future use.

Goal 3: Ensure the development of resource areas minimize effects on neighboring resource lands.

Goal 5: Conserve prime agriculture lands from premature conversion.

Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

Policies

Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of general plan designation.

Policy 6: Work with other agencies to define regulatory responsibility concerning energy-related issues.

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 NRCS (formerly Soil Conservation Service) as having high range-site value should be conserved for Extensive Agriculture uses or as Resource Reserve, if located within a County water district.

Policy 16: The County will encourage development of alternative energy sources by tailoring its Zoning and Subdivision Ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.

Implementation Measures

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.

Measure I: Periodically review the Zoning Ordinance to reflect new technology and energy sources and encourage these types of uses for new development.

Willow Springs Specific Plan

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). 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 KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for agricultural and forestry resources applicable to the project are provided below. The Willow Springs Specific Plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated in **Chapter 2**, *Introduction*, all goals, policies, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Land Use Element

Resource

Goals

Goal 1: To achieve compatibility of adjacent land uses within the plan area.

Goal 2: To establish zoning that is consistent with present and future intended land use.

Goal 3: Encourage retention of productive agricultural and dormant mineral resources by imposing a restriction on urban-type land uses on nearby adjacent lands.

Policies

Policy 1: Provide a method encouraging the preservation of agricultural land.

Policy 2: Require review of discretionary projects in those areas designated for resource use by the appropriate agency to determine potential resource loss.

Policy 3: To ensure compliance with applicable State and federal laws and to protect the biological resources present in the Specific Plan area.

Implementation Measures

Measure 4: Surrounding agricultural uses shall be buffered from proposed residential development through the use of buffer zones, berms, setbacks, and other measures deemed appropriate as a condition of approval of any new development, in accordance with County of Kern requirements, Site Plan Review, and ordinance regulations.

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 KCGP. 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 areas 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.

The project is subject to the provisions of the Kern County Zoning Ordinance and spans Zone Map 233. The project site consists of the following zoning districts: A (Exclusive Agriculture) and E (Estate). Many project parcels also contain one or more of the following combining districts: Floodplain Secondary (FPS), Wind Energy (WE), and Residential Suburban (RS).

To ensure zoning consistency with the existing KCGP designations, the project proponents have requested a ZCC to change the existing base zoning district (excluding their combining zone classification) to the A (Exclusive Agriculture) District, except for parcels already zoned A.

According to the Kern County Zoning Ordinance Section 19.12.030, there is a list of allowable uses within the A District, which includes other uses that are similar in nature, subject to obtaining a CUP. Specifically, Section 19.12.030 G provides for resource extraction and energy development uses within the A District.

Williamson Act Standard Uniform Rules

The 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 (gas, electric, communications, water, and other similar public utilities).

The conversion of agricultural land to a battery energy storage facility would not be consistent with the requirements of Williamson Act contracts and would require the County to petition for cancellation of the contract. However, the project site does not include any lands under an active Williamson Act contract and is therefore not subject to these regulations.

4.2.4 Impacts and Mitigation Measures

Methodology

The project's potential impacts on agriculture and forestry resources have been evaluated based on a qualitative review and analysis of the Kern County Agricultural Crop Report, California DOC Division of Land Resource Protection's Important Farmland Map, and the County's Williamson Act mapping tools. In addition, the analysis of potential impacts is based on an analysis of the KCGP's applicable goals and policies related to agricultural resources.

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 forestry resources if it does any of the following:

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.

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).

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 involve the construction of a battery energy storage facility and associated infrastructure on 10 parcels totaling approximately 120 acres. The project site is generally undeveloped and is not currently used for agricultural production. Furthermore, the project site is not located within the boundaries of the Kern County Agricultural Preserve, and it is not under a Williamson Act Land Use contract. The DOC does not designate the project site as Prime Farmland, Farmland of Statewide Importance, or Unique

Farmland. Rather, the DOC designates the project site as Nonagricultural or Natural Vegetation. Surrounding properties are also designated as Nonagricultural or Natural Vegetation, with small areas of Urban and Built-Up Land. The construction and operation of the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses; therefore, no impact would occur.

SCE Whirlwind Substation Upgrades

The project includes two 220-kilovolt (kV) overhead tie-lines to the SCE Whirlwind Substation located on the adjacent parcels to the south of the project site. SCE's work activities outside of the Whirlwind Substation, including tie-line access clearing, installation of telecommunications lines, installation of tie-line support poles or towers, stringing of overhead conductors, and operation and maintenance of the tie-lines to the Point of Change of Ownership, would disturb all land within a 100-foot-wide corridor centered on each of the offsite tie-line alignments. Within the existing Whirlwind Substation, each tie-line would require the installation of facilities for a new 220 kV switchrack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3**, *Project Description*.

The SCE Whirlwind Substation property and associated tie-line corridors consist of lands that are designated as Urban and Built-Up Land and Nonagricultural or Natural Vegetation. Similar to the project site, the proposed improvements on the SCE Whirlwind Substation property and within the tie-line corridors would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use; therefore, no impact would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact.

Impact 4.2-2: The project would conflict with existing zoning for agricultural use or Williamson Act Contract.

The project site is not within the boundaries of the Kern County Agricultural Preserve, and no parcels are under a Williamson Act contract or used for agricultural activities. Accordingly, the project would not conflict with an existing Williamson Act contract.

The project proponents have requested a ZCC to change the existing base zoning district from E (Estate) to A (Exclusive Agriculture) for all parcels not already zoned A. Zone A designates areas suitable for agricultural uses and serves to prevent the encroachment of incompatible uses onto agricultural lands. Per the Zoning Ordinance, agricultural uses include the growing and harvesting of crops and the breeding and raising of animals. This district also allows agricultural industries, such as animal products processing, including meat packing and shipping, when the livestock is produced or raised on the land. Some resource extraction and energy development are allowed uses, such as mineral exploration and oil or gas exploration, given that these are geological resources that are not artificially created, and access must be provided to them where they occur in the environment.

Since the battery energy storage facility is not considered a "by-right" use, both the BESS and associated infrastructure require the approval of a CUP. Upon approval of the CUP, the project would be regarded as

a compatible use that does not conflict with agricultural zoning. Therefore, development of the project site as a battery energy storage facility is expected to result in a less-than-significant impact.

SCE Whirlwind Substation Upgrades

As previously described, the project includes two 220-kV overhead tie-lines to the SCE Whirlwind Substation and additional improvements to the Whirlwind Substation. The parcels associated with these improvements are zoned A (Exclusive Agriculture). According to the Kern County Zoning Ordinance Section 19.12.030, there is a list of allowable uses within the A District, which includes other uses that are similar in nature, subject to obtaining a conditional use permit. Specifically, Section 19.12.030 G provides for resource extraction, and energy development uses within the A District. However, as described in **Chapter 3**, *Project Description*, SCE is an investor-owned utility subject to the exclusive jurisdiction of the California Public Utilities Commission (CPUC). As a result, the construction, modification, and operation of SCE's electric transmission facilities are governed by State law and CPUC oversight, preempting local discretionary land use authority, including the County's Zoning Ordinance.

The SCE-owned properties associated with tie-lines and Whirlwind Substation improvements are not subject to a Williamson Act Contract; therefore, their development would not involve the cancellation of a Williamson Act Contract. Impacts associated with the Whirlwind Substation would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.2-3: The project would 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).

The project site is currently zoned E (Estate) and A (Exclusive Agriculture), with many project parcels also containing one or more of the following combining districts: Floodplain Secondary (FPS), Wind Energy (WE), and Residential Suburban (RS). While the project site falls within the A District, which permits the growing and harvesting of timber, there are currently no forest uses on or near the proposed site. Furthermore, since the project involves rezoning all parcels within the project site not currently zoned A, it would be considered a compatible use that does not conflict with forest land or timberland once the ZCC request and CUP are approved. Therefore, no impact would occur.

SCE Whirlwind Substation Upgrades

As previously described, the project includes two 220-kV overhead tie-lines to the SCE Whirlwind Substation and additional improvements to the Whirlwind Substation. The SCE-owned properties associated with tie-lines and Whirlwind Substation improvements are zoned E (Estate) and include combining districts RS (Residential Suburban) and FPS (Floodplain Secondary). However, as described in **Chapter 3**, *Project Description*, SCE is an investor-owned utility subject to the exclusive jurisdiction of the CPUC. As a result, the construction, modification, and operation of SCE's electric transmission facilities are governed by State law and CPUC oversight. Further, there are no lands within proximity to

the Whirlwind Substation property that are zoned forest land or zoned timberland for timberland production. Therefore, there would be no conflicts with existing zoning for forest land, timberland, or timberland production. No impact would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact.

Impact 4.2-4: The project would result in the loss of forest land or conversion of forest land to non-forest use.

The project is not located within any forest lands and would not convert forest land to non-forest uses. There is no land in the vicinity of the project that is zoned as forest land. Consequently, the project would not result in the loss of forestland or the conversion of forestland to non-forest uses; therefore, no impact would occur.

SCE Whirlwind Substation Upgrades

There are no forest uses on, or within proximity to, the SCE-owned properties associated with tie-lines and Whirlwind Substation improvements that would be converted or could otherwise be lost as a result of the project. Therefore, the proposed improvements would not result in the loss of forest land or the conversion of forest land to non-forest uses, and no impact would occur.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

No impact.

Impact 4.2-5: The project would involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use.

There are no existing agricultural or forest lands on the project site or within the vicinity. The project site consists of largely undeveloped land and requests a zone change from E (Estate) to A (Exclusive Agriculture) for all parcels that are not already designated as zone A.

The project involves Nonsummary Vacations to eliminate public access easements on some of the parcels on the project site to accommodate onsite equipment and road layout efficiencies. However, none of the requested vacations would prevent legal access to surrounding parcels. Therefore, development of the project would not result in changes to surrounding land uses such that it would induce the conversion of agricultural lands to nonagricultural uses or forest land to non-forest use. The operation of the project would not preclude the surrounding areas from being improved with agricultural uses, nor would it have operational features that would affect adjacent growers' ability to farm. Further, the project site could be used for agricultural uses following project decommissioning (anticipated operational life of up to 35 years).

Therefore, the project would not result in the conversion of farmland or forest land due to its location or nature, and impacts would be less than significant.

SCE Whirlwind Substation Upgrades

The SCE-owned properties associated with tie-lines and Whirlwind Substation improvements are currently developed with existing substation infrastructure, and properties adjacent to the Whirlwind Substation are not in agricultural production. The project would not change the use of the property or have operational features that would affect adjacent growers' ability to farm. Accordingly, impacts related to other changes in the existing environment associated with the SCE Whirlwind Substation upgrades would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.2-6: The project would result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code.

The project site is not subject to an open space contract made pursuant to the California Land Conservation Act of 1965 (Williamson Act) or the Farmland Security Zone Contract. As described in **Section 4.2.2**, *Environmental Setting*, none of the parcels within the project site are under a Williamson Act Contract or a Farmland Security Zone Contract. Implementing the project would not require the cancellation of an open space contract or Farmland Security Zone Contract; therefore, no impact would occur.

SCE Whirlwind Substation Upgrades

The SCE-owned properties associated with the proposed tie-lines and Whirlwind Substation improvements are not subject to open space contracts made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contracts. As a result, the proposed SCE Whirlwind Substation upgrades would not involve the cancellation of an open space contract or Farmland Security Zone Contract, and no impact would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact.

4.2.5 Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for assessing cumulative impacts on agricultural and forestry resources is Kern County as a whole, due to the County's contribution to agricultural production in the state. Kern County consistently ranks as one of the five most productive agricultural counties in the United States (California EDD 2026). The County has also consistently experienced a decrease in agricultural lands as they are converted to other land uses. As shown in **Table 3-4**, *Cumulative Projects List*, there are five cumulative projects proposed within the cumulative impact study area.

The project proponents have requested a ZCC to change the existing base zoning district from E (Estate) to A (Exclusive Agriculture) for all parcels that are not already zoned A. Therefore, the project would not result in the loss of land zoned for agricultural uses. The project site is not within the boundaries of the Kern County Agricultural Preserve, and it is not under a Williamson Act Land Use Contract. Further, the DOC does not designate the project site as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Instead, the site is designated as Nonagricultural or Natural Vegetation. Except for potential historic grazing, the site has not been used for agricultural production. Accordingly, the project would not contribute to the cumulative conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses.

Operation of the project would not preclude any of the surrounding areas from being used for agricultural purposes, nor would it include operational features that would affect growers' ability to farm. In addition, the project site could be used for agriculture following project decommissioning, and project development would not preclude agricultural production in adjacent or other areas of Kern County. Therefore, the project's contribution to cumulative impacts related to agricultural resources would be less than cumulatively considerable.

SCE Whirlwind Substation Upgrades

As discussed above, the Whirlwind Substation and tie-line corridors are designated as Urban and Built-Up Land, and Nonagricultural or Natural Vegetation. Accordingly, improvements to the Whirlwind Substation property would not contribute to the cumulative conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses.

The SCE-owned properties associated with tie-lines and Whirlwind Substation improvements are currently developed with existing substation infrastructure, and properties adjacent to the Whirlwind Substation are not in agricultural production. The project would not change the use of the property or have operational features that could result in a cumulatively considerable contribution to a significant cumulative impact.

Although the Whirlwind Substation property and tie-line corridors are zoned A (Exclusive Agriculture), CPUC has jurisdiction over the siting, design, and construction of investor-owned public utility facilities, preempting local land use and zoning regulations, including the Kern County Zoning Ordinance. Therefore, development on the Whirlwind Substation property and tie-line corridors would not conflict with agricultural zoning regulations and would not contribute to cumulative impacts to agricultural resources. In addition, the Whirlwind Substation property is not subject to a Williamson Act Contract or an Open Space Contract under the California Land Conservation Act of 1965, or a Farmland Security Zone Act Contract. As a result, the development of the Whirlwind Substation improvements would not require the cancellation of such a contract that could contribute to cumulative impacts on agricultural lands.

There are no lands within or near the Whirlwind Substation property that are zoned forest land or timberland production. Additionally, no forest uses occur on or in proximity to the Whirlwind Substation property that would be converted or otherwise affected by the proposed improvements. Consequently, the project's contribution to cumulative impacts related to agricultural resources would be less than cumulatively considerable.

Mitigation Measures

No mitigation would be required.

Level of Significance

Cumulative impacts would be less than significant.

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Section 4.3
Air Quality

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4.3.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the affected environment and regulatory setting of air quality for the project. This section also evaluates the short- and long-term air quality impacts associated with construction, operation, maintenance, and decommissioning of the project and, where necessary, mitigation measures are provided to avoid or lessen potential impacts.

Information in this section is based primarily on the *Air Quality and Greenhouse Gas Technical Report* (**Appendix B1**), *Construction Health Risk Assessment* (**Appendix B2**), and *Supplemental Air Quality and Greenhouse Gas Modeling Technical Memorandum* (**Appendix B3**). These technical assessments were prepared in accordance with the Eastern Kern Air Pollution Control District's (EKAPCD) *Guidelines for Implementation of the California Environmental Quality Act* (CEQA) (EKAPCD 1999) and Kern County Planning and Natural Resources Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (Kern County 2006).

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 the EKAPCD. The MDAB includes the eastern half of Kern County, the northern part of Los Angeles County, most of San Bernardino County (except for the southwest corner), and the eastern edge of Riverside County. It is separated from the South Coast Air Basin to the 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 Mountains.

Topography and Meteorology

Air pollution, especially the dispersion of air pollutants, is directly related to a region's topographic features. Air quality is a function of both the rate and location of pollutant emissions and the meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions, such as wind speed, wind direction, atmospheric stability, and air temperature gradients, interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, which affect ambient air quality.

The project is located in an unincorporated area in southeastern Kern County, California. It is situated on the northern edge of the Antelope Valley, approximately 8 miles west of the unincorporated area of Rosamond, approximately 15 miles west of State Route (SR) 14, and 6 miles north of SR 138.

The Antelope Valley is within the western portion of the Mojave Desert and is bounded by the Tehachapi Mountains to the northwest and the San Gabriel Mountains to the southwest. Land uses in the project area include undeveloped desert, fallow and active agriculture, low-density residences, and energy development (e.g., solar and wind). The Mojave Desert is bordered on the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the Cajon Pass (4,200 feet above mean sea level [amsl]). A lesser valley lies between the San Bernardino Mountains and the Little San Bernardino Mountains (the Morongo Valley). The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern

end of a series of valleys (notably the Coachella Valley) whose primary channel is the San Gorgonio Pass (2,300 feet amsl) between San Bernardino and San Jacinto Mountains.

The weather in the MDAB is characterized by hot summers, cold winters, large diurnal ranges in temperature, low relative humidity, and irregular rainfall. The topography in 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 amsl), the passes of which form the main channels for these air masses.

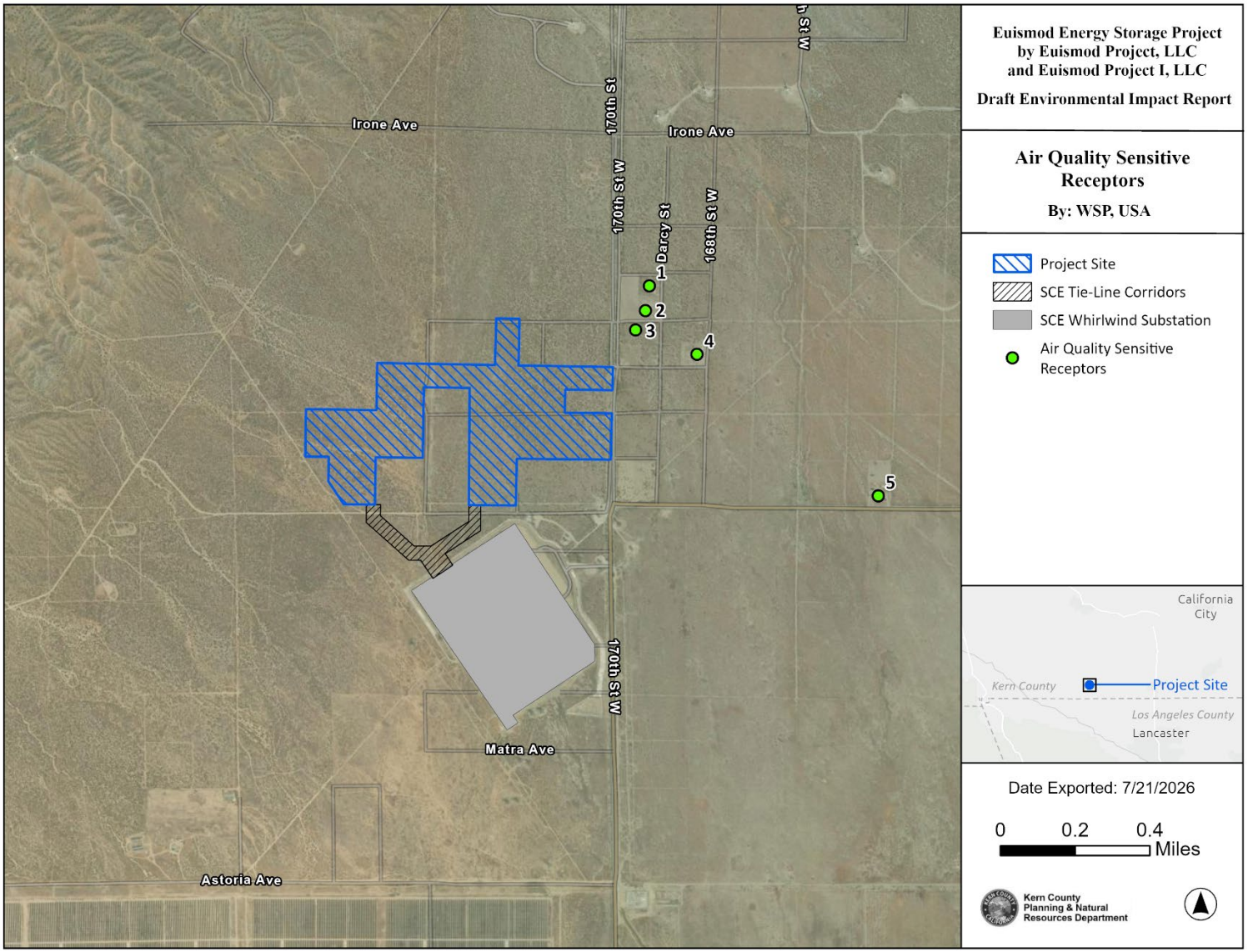
During the summer, the MDAB is generally influenced by a Pacific subtropical high-pressure cell that sits off the coast to the west, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal 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 Los Angeles 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 3 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 higher-than-average sensitivity include preexisting health problems, genetic predilection, age, and prolonged 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 site is in the vicinity of existing renewable energy development, rural residential development, and undeveloped lands. Potential residential receptors were identified near the project site and are shown in **Figure 4.3-1**, *Potential Sensitive Receptors*. The four nearest sensitive receptors are potential residents located to the northeast of the project site, between approximately 600 and 1,260 feet from the northeast property line. An additional potential residential receptor was identified on Rosamond Boulevard, approximately 3,800 feet east of the project site.

Figure 4.3-1: Potential Sensitive Receptors



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 U.S. Environmental Protection Agency (USEPA) has identified criteria pollutants and has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM) (specifically PM_{10} and $PM_{2.5}$), and lead (Pb). These pollutants are called "criteria" air pollutants because standards have been established for each of them to meet specific public health and welfare criteria.

To protect human health and the environment, the 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

The 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 Draft EIR.

Table 4.3-1, *National and State Criteria Pollutant Standards and EKAPCD 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**, *National and State Criteria Pollutant Standards and EKAPCD Attainment Status*, the southern portion of the EKAPCD, where the project is located, is currently classified as nonattainment for the California 1-hour and 8-hour O_3 standards and PM_{10} standards, severe nonattainment for the national 8-hour O_3 standard, and attainment and/or unclassified for the California and national standards of all of the other criteria pollutants (EKAPCD 2025).

TABLE 4.3-1: NATIONAL AND STATE CRITERIA POLLUTANT STANDARDS AND EKAPCD ATTAINMENT STATUS

		California Standards		National Standards	
Pollutant	**Averaging Time**	**Concentration**	**Attainment Status**	**Primary**	**Attainment Status**
Ozone (O_3)	1-hour	0.09 ppm	Non-Attainment	–	Attainment
	8-hour	0.070 ppm		0.070 ppm	Severe Nonattainment
Particulate Matter (PM_{10})	AAM	20 µg/m^3	Non-Attainment	–	Unclassifiable/ Attainment
	24-hour	50 µg/m^3		150 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m^3	Unclassified	9.0 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	—	Unclassified
	24-hour	0.04 ppm		—	
	3-hour	–		–	
	1-hour	0.25 ppm		0.075 ppm	
Lead (Pb)	30-day Average	1.5 µg/m^3	Attainment	–	Unclassified/ Attainment
	Calendar Quarter	–		—	
	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/km-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		

Notes:
AAM = annual arithmetic mean; km = kilometer; ppm = parts per million; µg/m^3 = micrograms per cubic meter
Sources: CARB 2024; EKAPCD 2025.

Local Air Quality

To assess local air quality impacts, the significance thresholds are based on the State CO standards, shown previously in **Table 4.3-1**, *National and State Criteria Pollutant Standards and EKAPCD Attainment Status*, which are 20 parts per million (ppm) for 1-hour CO concentration levels and 9 ppm for 8-hour CO concentration levels. If CO concentration levels with the project would be less than the standards, then there would be no significant impact on local air quality. If future CO concentrations associated with the project were above the standards, then the increase due to the project would contribute to the determination of whether the impact would be significant or less than significant. A project would have a significant impact on local air quality if it resulted 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 seven 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 emission 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. Air quality data statistics from various monitors were obtained based on the proximity of the monitoring station to the project. However, they do not necessarily reflect the exact project site conditions (i.e., generally undeveloped land). Most of the monitors are in nearby towns where monitoring data recorded are expected to show higher concentrations of criteria pollutants. Therefore, these monitoring locations are conservatively representative of the air quality in the immediate vicinity of the project.

The values in **Table 4.3-2**, *Air Quality Data Summary (2022–2024)* and analysis in this section used data collected in the last three years from CARB and USEPA monitoring stations that are located the closest to the proposed project. The background concentrations were the maximum observed concentration of the Federal and State concentration values for O_3, particulate matter of 10 microns (PM_{10}), particulate matter of less than 2.5 microns ($PM_{2.5}$), CO, and NO_2. Information is provided for the Mojave – Pat Avenue station (approximately 18 miles to the northeast), Mojave – CA 58 Business station (approximately 19 miles to the northeast), Bakersfield-Muni station (approximately 44 miles to the northwest), and the Edison station (approximately 41 miles to the northwest). There are no monitoring stations within the project vicinity that have available measurements for SO_2 for the past three years.

TABLE 4.3-2: AIR QUALITY DATA SUMMARY (2022-2024)

Pollutant [a]	Averaging Time	2022	2023	2024	Days Exceeding Standard During 2022-2024 Period (days/year)	
					State	Federal
Ozone (O_3) [b]	1-hour (ppm)	0.091[c]	0.086	0.089	0	--
	8-hour (ppm)	0.076[c]	0.078	0.080	12-26	12-20
Particulate Matter (PM_{10}) [b]	24-hour (µg/m^3)	121.5[c]	70.3	101.5	9	0
	Annual Arithmetic Mean (µg/m^3)	*	18.9	22.0	--	--
Particulate Matter ($PM_{2.5}$) [b]	24-hour (µg/m^3)	10.9[c]	15.3	19.8	--	0
	Annual Arithmetic Mean (µg/m^3)	5.1[c]	*	4.1	--	--
Carbon Monoxide (CO) [d]	1-hour (ppm)	1.5	1.6	1.8	--	--
	8-hour (ppm)	0.9	0.9	0.9	--	--
Nitrogen Dioxide (NO_2) [e]	1-hour (ppm)	0.033	0.042	0.024	--	--
	Annual Arithmetic Mean (ppm)	0.005	0.004	0.004	--	--

Notes:
ppm = parts per million by volume; ppb = parts per billion by volume; µg/m^3 = micrograms per cubic meter
* Insufficient data available to determine the value.

[a] Concentration data presented in this table represent the maximum observed concentration of the federal and State concentration values. Monitored data for SO2 were not available within the project area.

[b] Data from the Mojave – Pat Avenue monitoring station located at 3200 Pat Avenue, Mojave, Kern County, California. AQS Site ID: 06-029-0020. Air quality data statistics obtained from CARB's iADAM database (CARB 2026b).

[c] Data from the Mojave – CA 58 Business monitoring station located at 1773 CA-58 Business, Mojave, Kern County, California. AQS Site ID: 06-029-0019. Air quality data statistics obtained from CARB's iADAM database (CARB 2026b).

[d] Data from the Bakersfield-Muni monitoring station located at 2000 South Union Ave., Bakersfield, Kern County, California. AQS Site ID: 06-029-2012. Air quality data statistics obtained from USEPA's Monitor Values Report (USEPA 2026).

[e] Data from the Edison monitoring station located at Johnson Farm-Shed Rd, Edison, Kern County, California. AQS Site ID: 06-029-0007. Air quality data statistics obtained from CARB's iADAM database (CARB 2026b).

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**.

Ozone

O_3 occurs in two layers of the atmosphere. The layer surrounding the Earth's surface is the troposphere. At ground level, tropospheric, or "bad," ozone is an air pollutant that damages human health, vegetation, and many common materials. Ozone is a key ingredient of urban smog. The troposphere extends to a level approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric, or "good," ozone layer extends upward from approximately 10 to 30 miles and protects life on Earth from the sun's harmful ultraviolet rays (UV-B).

"Bad" ozone is what is known as a photochemical pollutant, which needs 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 number 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. High concentrations of ozone (above the current ambient air quality standard) lead 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 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 as 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 2025).

Reactive Organic Gases and Volatile Organic Compounds

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 fossil-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 CAAQS for ROG. Carcinogenic forms of ROG are considered toxic air contaminants (TACs). The health effects of individual ROGs are described under the *Toxic Air Contaminants* heading below.

Carbon Monoxide

CO is emitted by mobile and stationary sources as a result of the 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 gasoline-powered 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 weakens the heart's contractions and lowers the amount of oxygen carried by the blood. Health effects observed may include an early onset of cardiovascular disease; behavioral impairment; decreased exercise performance in young healthy men; reduced birth weight; sudden infant death syndrome; and increased daily mortality rate (Fierro et al. 2001).

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 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 NO_2, with the majority (95 percent) of the NO_X emissions being comprised of NO. NO is converted to NO_2 by several processes, the two most important of which 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, including irritation of the lungs, lung damage, and lowered resistance to respiratory infections, such as influenza. Short-term exposures (e.g., less than 3 hours) to low levels of NO_2 may lead to changes in airway responsiveness and lung function in individuals with preexisting respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposure to NO_2 may lead to increased susceptibility to respiratory infection and may cause irreversible lung damage. Other health effects associated with NO_2 include an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may lead to eye and mucus membrane irritation, along with pulmonary dysfunction. Clinical studies of human subjects suggest that NO_2 exposure to levels near the current standard may worsen the effect of allergens in allergic asthmatics, especially in children. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes as well as hospital admissions for respiratory conditions.

NO_X contributes to a wide range of environmental effects both directly and indirectly when combined with other precursors in acid rain and ozone. NO_X can cause fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to the production of particulate nitrates. Airborne NO_X can also impair visibility. Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems, such as those found in estuarine and coastal waters, can lead to eutrophication (a condition that promotes excessive algae growth, which can lead to a severe depletion of dissolved oxygen and increased levels of toxins harmful to aquatic life). Nitrogen, alone or in acid rain, can also 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.

Sulfur Dioxide

Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

SO_2 is a colorless, irritating gas with a “rotten egg” smell that is formed primarily by the combustion of sulfur-containing fossil fuels. Historically, SO_2 was a pollutant of concern in Kern County, but with the successful implementation of regulations, levels have been reduced significantly, and the area is in attainment, as shown in **Table 4.3-1**.

Health Effects

High concentrations of SO_2 can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Health effects from exposure to emissions of SO_2 include aggravation of lung diseases, especially bronchitis, and constriction of breathing passages, especially in asthmatics and people involved in moderate to heavy exercise. Short-term exposures of individuals to elevated SO_2 levels during moderate activity may result in health effects, including breathing difficulties that can be accompanied by symptoms, such as wheezing, chest tightness, or shortness of breath. Other health effects that have been

associated with longer-term exposures to high concentrations of SO_2, in conjunction with high levels of PM, include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs' defenses. SO_2 is also a major precursor to $PM_{2.5}$, which is a significant health concern and a main contributor to poor visibility (see also the discussion of health effects of PM).

SO_2 not only has a bad odor but can also irritate the respiratory system. Exposure to high concentrations for short periods of time can constrict the bronchi and increase mucous flow, making breathing difficult. SO_2 can also irritate the lung and throat at concentrations greater than 6 ppm in many people; impair the respiratory system's defenses against foreign particles and bacteria when exposed to concentrations less than 6 ppm for longer time periods; and enhance the harmful effects of ozone (combinations of the two gases at concentrations occasionally found in the ambient air appear to increase airway resistance to breathing).

SO_2 tends to have more toxic effects when acidic pollutants, liquid or solid aerosols, and particulates are also present. Effects are more pronounced among "mouth breathers," e.g., people who are exercising or who have head colds. These effects include the follwoing:

- 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, are associated with acid aerosol concentrations (individuals with asthma are especially susceptible to these effects. The elderly and those with chronic respiratory conditions may also be affected at lower concentrations than the general population).
- Increased respiratory tract infections associated with longer-term, lower-level exposures to SO_2 and acid aerosols
- 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 the following:

- Visible injury to the most sensitive plants at exposures as low as 0.12 ppm for 8 hours
- Visible injury to many other plant types of intermediate sensitivity at exposures of 0.30 ppm for 8 hours
- Positive benefits from low levels in a very few species growing in 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 (PM_{10} and $PM_{2.5}$)

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 dust are the small particles that remain suspended in the air for long periods of time. Particulates of concern are those that are 10 microns or less in diameter (PM_{10}) and 2.5 microns or less in diameter ($PM_{2.5}$). Thus, $PM_{2.5}$ is a subset of PM_{10}. PM_{10} and $PM_{2.5}$ are small enough to be inhaled, pass through the respiratory system, and lodge in the lungs, possibly leading to adverse health effects.

The composition of PM_{10} and $PM_{2.5}$ can vary greatly with time, location, the sources of the material, and meteorological conditions. Dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes are the main components of PM_{10} and $PM_{2.5}$. In addition to those listed previously, secondary particles can also be formed as precipitates from photochemical reactions of gaseous SO_2 and NO_X in the atmosphere to create sulfates (SO_4) and nitrates (NO_3), respectively. Secondary particles are of greatest concern during the winter months when low inversion layers tend to trap the precursors of secondary particulates.

In the western United States, there are sources of PM_{10} and $PM_{2.5}$ in both urban and rural areas. PM_{10} and $PM_{2.5}$ are emitted from stationary and mobile sources, including diesel trucks and other motor vehicles; power plants; industrial processes; wood-burning stoves and fireplaces; wildfires; dust from roads, construction, landfills, and agriculture; and fugitive windblown dust. Because particles originate from a variety of sources, their chemical and physical compositions vary widely.

Health Effects

PM_{10} and $PM_{2.5}$ particles are small enough—about one-seventh the thickness of a human hair or smaller—to be inhaled and lodged in the deepest parts of the lung, where they evade the respiratory system's natural defenses and can be trapped in the nose, throat, and upper respiratory tract. Health effects from exposure to PM_{10} and $PM_{2.5}$ occur when 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 PM in the air. PM_{10} and $PM_{2.5}$ can aggravate respiratory disease and cause lung damage, cancer, and premature death. Sensitive populations, including children, the elderly, exercising adults, and those suffering from chronic lung disease, such as asthma or bronchitis, are especially vulnerable to the effects of PM. Of greatest concern are recent studies that link PM exposure to the premature death of people who already have heart and lung disease, especially the elderly. Acidic PM can also damage human-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 PM are now at levels comparable to deaths from traffic accidents and secondhand smoke. One of the most dangerous pollutants, fine PM (e.g., from diesel exhaust) not only bypasses the body's defense mechanisms and becomes embedded in the deepest recesses of the lungs, but also can disrupt cellular processes. Population-based studies in hundreds of cities in the United States and around the world have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks. Long-term studies of children's health conducted in California have demonstrated that particulate pollution may significantly reduce lung function growth in children (CARB and American Lung Association of California 2007).

A 2006 study provides evidence that exposure to particulate air pollution is associated with lung cancer. This study found that residents who live in an area that is severely affected by particulate air pollution are at risk of developing lung cancer at a rate comparable to nonsmokers exposed to secondhand smoke. This study also found approximately 16 percent excess risk of dying from lung cancer due to fine particulate air pollution (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 PM 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 PM and ozone standards would annually prevent 4,000 hospital admissions for respiratory disease, 3,000 hospital admissions for cardiovascular disease, and 2,000 asthma-related emergency room visits. Exposure to diesel particulate matter (DPM) causes about 250 excess cancer cases per year in California (Kern County 2006).

Sulfates

Sulfates (SO_4^{2-}) are a particulate product that comes from the combustion of sulfur-containing fossil fuels. When sulfur monoxide or SO_2 is exposed to oxygen, it precipitates out into sulfates (SO_3 or SO_4).

Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

Health Effects

CARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in oxygen intake, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. When acidic pollutants and particulates are also present, SO_2 tends to have an even more toxic effect. In addition to particulates, SO_3 and SO_4 are also precursors to acid rain. SO_X and NO_X are the leading precursors to acid rain. Acid rain can lead to corrosion of manufactured 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 (CAPCOA 2023).

Lead

Lead is a metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. Historically, lead was used to increase the octane rating in automobile fuel. However, because gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels, and that use has been mostly phased out, the ambient concentrations of lead have dropped dramatically. The EKAPCD no longer monitors ambient levels of atmospheric lead in the MDAB.

Health Effects

Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments, such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children, resulting in learning deficits and lowered IQ. Recent studies also show that lead may be a factor in high blood pressure and subsequent heart disease. Lead can also be deposited on the leaves of plants, presenting a hazard to grazing animals and humans through ingestion (USEPA 2024).

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 6 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 the following:

- Damage to the brain and nervous system
- Behavior and learning problems (such as hyperactivity)
- Slowed growth
- Hearing problems
- Headaches

Lead is also harmful to adults, and adults with high levels of lead in their bodies can suffer from the following:

- Difficulties during pregnancy
- Other reproductive problems (in both men and women)
- High blood pressure
- Digestive problems
- Nerve disorders
- Memory and concentration problems
- Muscle and joint pain

Since the 1980s, lead has been phased out of 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, which can cause 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. The Occupational Safety and Health Administration (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 to 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 the development of liver angiosarcoma, which is a rare cancer, and have suggested a relationship between exposure to cancers of the lung and brain. There are currently no adopted ambient air standards for vinyl chloride.

Short-term exposure to vinyl chloride has been linked with the following acute health effects (USEPA 2020):

- Acute exposure of humans to high levels of vinyl chloride via inhalation in humans has resulted in effects on the central nervous system, such as dizziness, drowsiness, headaches, and giddiness.
- Vinyl chloride is reported to be slightly irritating to the eyes and respiratory tract in humans. Acute exposure to extremely high levels of vinyl chloride has caused loss of consciousness; irritation to the lungs and kidneys; inhibition of blood clotting in humans; and cardiac arrhythmias in animals.

- Tests involving acute exposure of mice to vinyl chloride have shown high acute toxicity from inhalation exposure to the substance.

Long-term exposure to vinyl chloride concentrations has been linked with the following chronic health effects (USEPA 2020):

- Liver damage may result in humans from chronic exposure to vinyl chloride through both inhalation and oral exposure.
- A small percentage of individuals occupationally exposed to high levels of vinyl chloride in air have developed a set of symptoms termed "vinyl chloride disease," which is characterized by Raynaud's phenomenon (fingers blanch and numbness and discomfort are experienced upon exposure to the cold), changes in the bones at the end of the fingers, joint and muscle pain, and scleroderma-like skin changes (thickening of the skin, decreased elasticity, and slight edema).
- Central nervous system effects (including dizziness, drowsiness, fatigue, headache, visual and/or hearing disturbances, memory loss, and sleep disturbances) as well as peripheral nervous system symptoms (peripheral neuropathy, tingling, numbness, weakness, and pain in fingers) have also been reported in workers exposed to vinyl chloride.

Several reproductive/developmental health effects from vinyl chloride exposure have been identified (USEPA 2020):

- Several case reports suggest that male sexual performance may be affected by vinyl chloride. However, these studies are limited by a 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 spouses' 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 are 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 PM, 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

TACs are air pollutants identified by CARB as causing or contributing to adverse health effects. Direct exposure to TACs may result in cancer and noncancerous impacts, such as reproductive, neurological, respiratory, or other chronic health effects. Sources of TACs include industrial processes, such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust.

Unlike other air pollutants, TACs do not have ambient air quality standards because no threshold has been determined. Instead, TAC impacts are evaluated by calculating the potential health risks associated with a given exposure. Facilities that use, produce, or emit toxic chemicals must adhere to the requirements of the Air Toxic "Hot Spots" Information and Assessment Act. 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. For the project, DPM emitted from construction equipment would represent the primary TAC source and is therefore, the only TAC described further in this analysis.

Diesel Particulate Matter

DPM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled engines contribute approximately 24 percent of the statewide total, with an additional 71 percent attributed to other mobile sources, such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources contribute about 5 percent of total DPM.

Health Effects

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).

In its comprehensive assessment of diesel exhaust, the 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 the 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 1 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 the 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 and 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 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.

Mild symptoms of Valley Fever can include a slight cold, which quickly goes away. The most common symptoms are described as flu-like and include a cough, fever, headache, chills, sweats, chest pain, and fatigue. Other symptoms that could occur with Valley Fever include rashes on the lower legs and joint pain similar to arthritis. Chest X-rays of persons with Valley Fever typically show fluid in one or both lungs, enlarged glands behind the lungs, or fluid buildup around the lungs.

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 from person to person. Most of those who are infected recover without treatment within 6 months and have lifelong 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 the 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 2018).

Table 4.3-3, *Range of Valley Fever Cases*, presents the range of severity of diagnosed Valley Fever cases based on research conducted by the Valley Fever Center for Excellence (2018).

TABLE 4.3-3: RANGE OF SEVERITY OF DIAGNOSED VALLEY FEVER CASES

Infection Classification	Percentage 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 2018.

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 the Coast Ranges. According to information provided by the California Department of Conservation, Division of Mines and Geology, the project is not located in an area where naturally occurring asbestos is likely to be present (DOC 2011).

Coronavirus Disease (COVID-19)

There are many types of human coronaviruses, including some that commonly cause mild upper-respiratory tract illnesses. COVID-19 is a respiratory illness that can spread from person to person. According to the Centers for Disease Control and Prevention (CDC), older adults and people who have severe underlying medical conditions like heart or lung disease or diabetes seem to be at higher risk for developing more serious complications from COVID-19 illness. Symptoms may appear 2 to 14 days after exposure to the virus and can include fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, and diarrhea (CDC 2025). According to the CDC, COVID-19 is believed to spread between people who are in close contact with one another (within about 6 feet) through respiratory droplets produced when an infected person coughs, sneezes, or talks (CDC 2024). A nationwide study by Harvard University found a linkage between long-term exposure to $PM_{2.5}$ as air pollution (averaged from 2000 to 2016) and a statistically significant increased risk of COVID-19 death in the United States (Xiao et al. 2020).

4.3.3 Regulatory Setting

In California, air quality is regulated by several agencies, including USEPA, CARB, and local air districts, such as the EKAPCD. Each of these agencies develops rules and/or regulations to attain the goals or directives imposed upon them through legislation. Although USEPA regulations may not be superseded, some state and local regulations may be more stringent than federal regulations. The project site is located within the MDAB, which is under the jurisdiction of the EKAPCD.

Federal

U.S. Environmental Protection Agency

The principal air quality regulatory mechanism on the federal level is the CAA and, in particular, the 1990 amendments to the CAA and the NAAQS that it establishes. These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect public health and welfare. The criteria

pollutants include O_3, CO, NO_2 (which is a form of NO_X), SO_2 (which is a form of SO_X), PM_{10}, $PM_{2.5}$, and lead. The 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 aircrafts, locomotives, and interstate trucking. The USEPA's primary role at the state level is to oversee the state air quality programs. The USEPA sets federal vehicle and stationary source emission standards and oversees approval of all State Implementation Plans (SIPs), as well as provides research and guidance for air pollution programs. The SIP is a state-level document that identifies all air pollution control programs within California that are designed to meet NAAQS.

USEPA has also adopted technology-based standards that limit the emissions of criteria pollutants from new or modified facilities in specific source categories. These standards are referred to as New Source Performance Standards and are found in 40 Code of Federal Regulations (CFR) Part 60. The applicability of these standards depends on the equipment size or rating; material or fuel process rate; and/or the date of construction, modification, or reconstruction. In the event that emergency backup generators are required for project facilities by the Authority Having Jurisdiction (AHJ), the project's diesel-powered emergency generators would be subject to Subpart IIII, which establishes emission and operational limits of criteria pollutants for new stationary compression ignition engines. The project's natural gas-fired emergency generators would be subject to Subpart JJJJ, which establishes emission and operational limits of criteria pollutants for new stationary spark ignition engines. To comply with the requirements of Subpart IIII, the project's diesel-fired emergency generators would be operated and maintained as per the manufacturer's specifications and would be certified to comply with Tier 4 emission rates. The project's natural gas-fired generators would be confirmed by the manufacturer to meet the respective Subpart JJJJ emission requirements and would be operated and maintained as required by the Subpart.

In addition to criteria pollutants, the USEPA also regulates emissions of hazardous air pollutants (HAP). HAPs, or air toxics, are pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects, birth defects, or adverse environmental effects. Controlling air toxic emissions became a national priority with the passage of the CAA amendments in 1990, when the U.S. Congress mandated that the USEPA regulate 188 air toxics. National Emission Standards for Hazardous Air Pollutants (NESHAP) regulate HAPs at major emission sources, aiming to protect public health with an ample margin of safety and to prevent any significant and adverse environmental effects. As stated previously, the project does not include large stationary sources; therefore, it is not considered a "major" source of emissions, and NESHAP requirements would generally not apply.

Corporate Average Fuel Economy Standards

Established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards are intended to reduce energy consumption by improving the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and USEPA jointly administer the CAFE standards. The standards are established at the maximum feasible level, while considering technological feasibility, economic practicality, the effect of other standards on fuel economy, and the nation's need to conserve energy (NHTSA 2020).

Fuel efficiency standards for medium- and heavy-duty trucks have also been jointly developed by USEPA and NHTSA. Phase 1 standards applied to model years 2014 through 2018 and resulted in fuel consumption reductions ranging from 6 to 23 percent compared to the 2010 baseline conditions, depending on the vehicle type. Phase 2 standards apply to model years 2021 through 2027 and require further reductions in fuel consumption depending on the compliance year and vehicle type (USEPA and NHTSA 2016).

In April 2022, NHTSA finalized fuel economy standards requiring an industry-wide fleet average of approximately 49 miles per gallon for passenger cars and light trucks in model year 2026. These standards increased fuel efficiency by 8 percent annually for model years 2024 and 2025, and by 10 percent for model year 2026, resulting in an estimated fleetwide average increase of nearly 10 miles per gallon compared to model year 2021 (NHTSA 2022). In June 2024, NHTSA finalized fuel economy standards for passenger cars and light trucks that increase at a rate of 2 percent per year for passenger cars in model years (MYs) 2027-31, 0 percent per year for light trucks in model years 2027-28, and 2 percent per year for light trucks in model years 2029-31. NHTSA is also finalizing fuel efficiency standards for heavy-duty pickup trucks and vans for model years 2030-32 that increase at a rate of 10 percent per year and model years 2033-35 that increase at a rate of 8 percent per year (NHTSA 2024). NHTSA continues to evaluate and update fuel economy requirements through subsequent rulemakings.

State

California Air Resources Board

CARB, a department of the California Environmental Protection Agency (CalEPA), 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 California Clean Air Act (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 annual $PM_{2.5}$, 1-hour NO_2, and SO_2 can 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 2588) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. Assembly Bill 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release into their local air basin. Each APCD and air quality management district (AQMD) 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. DPM is considered a TAC under AB 2588; therefore, the project may be subject to Assembly Bill 2588 due to its DPM-emitting emergency backup generators (natural gas generators are expected to have minimal TAC emissions). However, DPM emissions from the emergency backup generators will be intermittent and minimal, with operations estimated at approximately 100 hours per year for maintenance and testing purposes. Emissions will be further controlled based on the engines being Tier 4. Any reporting required by Assembly Bill 2588, if applicable, will be completed through annual reporting to the EKAPCD.

In an effort to reduce DPM emissions throughout the state, CARB has established the Airborne Toxic Control Measures (ATCM) for DPM from Portable Engines Rated at 50 Horsepower and Greater (13 California Code of Regulations [CCR] Section 93116). This ATCM requires portable diesel-fueled engines having a maximum rating of 50 horsepower or greater to meet fleet-average DPM emissions standards. 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.

CARB has also established the ATCM for Stationary Compression Ignition Engines (17 CCR Section 93115) to reduce DPM and criteria pollutant emissions from stationary diesel-fueled compression ignition engines through fuel requirements, operational restrictions, and emission limits. The ATCM applies to points of sale of stationary compression ignition engines for use in California except portable engines, engines for motive power, auxiliary engines on marine vessels, and agricultural wind machines.

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. 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 PM 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.

California State Implementation Plan

The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register.

Regional

Eastern Kern Air Pollution Control District

The EKAPCD has primary responsibility for regulating stationary sources of air pollution situated within its jurisdictional boundaries. To this end, the 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. The EKAPCD also identifies thresholds of significance against which project impacts are analyzed to determine whether a project will have a significant impact on air quality. The EKAPCD is responsible for managing and permitting existing, new, and modified sources of air emissions within the Mojave Desert portion of Kern County and has established the following rules and regulations to ensure compliance with local, state, and federal air quality regulations:

Rule 106 – Land Use

As part of their responsibility to protect the public health and property from the damaging effects of air pollution, it shall be the duty of the Air Pollution Control Officer to review and advise the appropriate

planning authorities within the EKAPCD on all new construction or changes in land use that the Air Pollution Control Officer believes could become a source of air pollution problems.

Rule 201 (Permits Required)

Rule 201 establishes permitting requirements for stationary sources, including the project's backup generators. The EKAPCD also 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 requires a Fugitive Dust Emissions Monitoring Plan through which each facility installs upwind and downwind PM air monitoring. The monitoring will be used to demonstrate compliance with the District Rules and Regulations.

Rule 208.2 – Criteria for Finding of No Significant Environmental Impact (CEQA)

This Rule establishes criteria by which a project under review by EKAPCD can be found to have no potential for causing a significant environmental impact, and, thus, be granted a general rule exemption pursuant to Section 15061(b)(3) of the State CEQA Guidelines.

Rule 210.1 – New and Modified Stationary Source Review [NSR]

Rule 210.1 establishes stationary source offset levels for new and modified stationary sources of air pollutants. Under this rule, the EKAPCD has established required offsets for when the emissions from a source exceed the following trigger levels:

- PM_{10}: 15 tons per year
- SO_X (as SO_2): 27 tons per year
- VOCs: 25 tons per year
- NO_X (as NO_2): 25 tons per year

Rule 401 – Visible Emissions

Rule 401 states that a person shall not discharge into the atmosphere, from any single source of emissions whatsoever, any air contaminant from any single emissions source for a period or periods aggregating more than 3 minutes in any 1 hour, which is:

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

Rule 402 – Fugitive Dust

Rule 402 of the EKAPCD's rules and regulations addresses significant human-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, earth-moving, construction

and demolition, and human-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 earth-moving 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."
- The EKAPCD may require onsite PM_{10} monitoring for any large operation that causes downwind PM_{10} ambient concentrations to increase more than 50 micrograms per cubic meter above upwind concentrations as determined by utilizing high-volume PM samplers or other USEPA-approved equivalent method(s).

Rule 404.1 – Particulate Matter Concentrations – Desert Basin

Rule 404.1 pertains to PM Concentrations – Desert Basin and states:

- PM emissions shall not exceed 0.1-grains per standard cubic foot of gas at standard conditions (gr/scf).

Rule 419 – Nuisance

Rule 419 states that a person shall not discharge from any source whatsoever such quantities of contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or that endanger the comfort, repose, health, or safety of such persons or the public or that cause or have a natural tendency to cause injury or damage to business or property.

Rule 423- National Emission Standards for Hazardous Air Pollutants and Source Categories (NESHAPs).

Rule 423 adopts the USEPA's NESHAPS by reference, which grants the EKAPCD the ability to ensure that all sources of hazardous air pollution comply with applicable standards, criteria, and requirements set forth in Title 40, Chapter 1, parts 61 and 63, of the CFR that are in effect as of October 10, 2017.

Ozone Attainment Plans

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, 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 2017). In response to court decisions, some elements included in the 2017 Plan required updates. CARB staff prepared the 2018 Updates to the California State Implementation Plan (2018 SIP Update) to update SIP elements for nonattainment areas throughout the State as needed. CARB adopted the 2018 SIP Update on October 25, 2018 (CARB 2018). CARB adopted another update to the SIP (2022 SIP Update) on September 22, 2022. The 2022 SIP Update includes measures and commitments to reduce emissions from State-regulated sources to support attainment of the 70 parts per billion (ppb) 8-hour ozone standard in all nonattainment areas across California (CARB 2022). In 2023, EKAPCD adopted the 2023 Ozone Attainment Plan to satisfy both the 2008, 8-hour O_3 NAAQS of 75 ppb and the 2015, 8-hour O_3 NAAQS (70 ppb) (EKAPCD 2023).

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to air quality. The goals, policies, and implementation measures in the Kern County General Plan (KCGP) and the Willow Springs Specific Plan related to air quality that are applicable to the project are provided below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for air quality applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

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 EIR must be prepared pursuant to the CEQA, 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 CEQA.

Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.

Policy 21: The County shall support air districts efforts to reduce PM_{10} and $PM_{2.5}$ emissions.

Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, State, and local standards.

Implementation Measures

Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.

Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:

1. Minimizing idling time.
2. Electrical overnight plug-ins.

Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:

1. Pave dirt roads within the development.
2. Pave outside storage areas.
3. Provide additional low 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 PM_{10} control measures as conditions of approval for subdivision maps, site plans, and grading permits.

Willow Springs Specific Plan

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). The plan was adopted in 1992 and amended in 2008 as part of the Land Use, Open Space, and Conservation Element of the KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for air quality applicable to the project are provided below. The plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Land Use Element

Air Quality

Policies

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. (See [Willow Springs Specific Plan] Environmental Impact Report Air Quality for additional recommended mitigation measures, page 161.)

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 5: Energy conservation practices, as required by the Subdivision Map Act, Building Energy Efficiency Standards (California Energy Commission, 1988), and State and local laws, shall be incorporated into the design of the individual projects to have the secondary effect

of limiting stationary source pollutants both on- and off-site. These standards address insulation and instruction to the original homeowners addressing glazing (window) type shading, heating/cooling system type, thermostats, lighting, water heating equipment, etc.

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.

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 analysis presented within this section is based on both qualitative and quantitative approaches for determining air quality impacts associated with the construction, operation and maintenance, and decommissioning of the project. Air quality impacts were evaluated using the *Air Quality and Greenhouse Gas Technical Report* (**Appendix B1**), *Construction Health Risk Assessment* (**Appendix B2**), and *Supplemental Air Quality and Greenhouse Gas Modeling Technical Memorandum* (**Appendix B3**). These documents were prepared in accordance with the EKAPCD's *Guidelines for Implementation of the California Environmental Quality Act* (EKAPCD 1999) and Kern County Planning and Natural Resources Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (Kern County 2006), referred to herein as the County Air Quality Assessment guidance documents and were also used in assessing the project's air quality impacts.

Pollutant Emissions

Project construction and operational emissions were estimated primarily using the California Emissions Estimator Model (CalEEMod; Version 2022.1.1.44). Short-term and annual emissions were estimated using project-specific data and schedules within the model. Emissions from emergency back-up generators used periodically during operation of the project were estimated via spreadsheet calculations in **Appendix B3**. Refer to **Appendix B1** of this Draft EIR for details on equipment fleet, hours of operation, vehicle miles traveled, and other assumptions used.

Construction

Construction of the project would generate emissions of ROG, NO_X, CO, SO_X, PM_{10}, 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), and fugitive dust from site grading and earth movement.

The County's guidance states that an air quality assessment should include estimates of short-term construction emissions in tons per year (Kern County 2006). The estimates must include site grading and building construction emissions with comparison to the adopted Kern County CEQA thresholds and the applicable air district (EKAPCD) thresholds. Per the County's guidance, all assumptions should be clearly presented, including length of each construction phase, equipment that would be used during each phase, and the amount of soil disturbance, including any import or export of soil. The emission factors used to estimate emissions should be clearly documented, and the model output should be included in the report.

CalEEMod was used to estimate emissions from construction of the project. CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant emissions associated with construction activities from a variety of land use projects, such as residential, commercial, and industrial facilities. CalEEMod input parameters, including the land use type used to represent the project and size, construction schedule, and anticipated construction equipment utilization, were based on information provided by the project applicant, as described in **Appendix B1** of this Draft EIR.

For purposes of this analysis, construction of the project is assumed to occur over two years, with the highest emissions occurring during the first full year of constructing the North and South BESS areas. Accordingly, the first year of construction represents the maximum annual construction emissions scenario. To be conservative, construction activities during the second year were assumed to generate emissions equivalent to those estimated for the first year. 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 clearing, grading, and structure installation. Based on assumptions provided in **Appendix B1**, several construction phases would occur concurrently. For this analysis, it was assumed that construction equipment would be operating at the site for 5 days per week and 11 hours per day (6:00 AM to 5:00 PM) during project construction. Equipment horsepower was provided by the project applicant, and default CalEEMod load factors for equipment were used to estimate project emissions.

- **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, on-site crew and material movement, and employee commuting. As provided in **Appendix K1** of this Draft EIR, the analysis assumes a construction peak workforce of approximately 220 workers (accounted for with overlapping phases). For calculation of emissions from on-road mobile sources, CalEEMod uses the EMFAC 2021 emissions model.

- **Water Trucks:** During construction of the project, water would be required for common construction-related purposes, including but not limited to dust suppression, soil compaction, and grading. The overall construction water usage is anticipated to be approximately 55 acre-feet during the 2-year construction period. Construction water would be provided by onsite wells and supplemented by water purchased from local water purveyors.

- **Fugitive Dust**: Fugitive dust (PM_{10} and $PM_{2.5}$) emissions would result from wind erosion of exposed soil and soil storage piles, and vehicles traveling on paved and unpaved roads and surfaces. These emissions were calculated based on USEPA (2006a, 2006b, 2011) emissions factors contained in CalEEMod.

- **Site Grading and Earth Movement**: Fugitive dust emissions from earth movement (e.g., site grading and bulldozing) were also quantified using emission factors contained in CalEEMod. The graded acreage was assumed to be approximately 65 acres per year in CalEEMod. Per the applicant, it was assumed that approximately 8,301 cubic yards of material is expected to be imported onsite.

Operation

Operation of the project would generate emissions of ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ that could result in long-term impacts on ambient air quality. During operation of the project, there would be daily

operational and site maintenance activities. The annual water usage is expected to be less than 2 acre-feet of water. This amount includes the water necessary for project operations, potential fire suppression, and site maintenance activities.

Emissions would result from off-road equipment exhaust and on-road vehicle trip generation for employee trips. Long-term operational emissions associated with the project were calculated using CalEEMod. Details regarding the methods and activity assumptions by source type are provided below.

- **Mobile Source:** Up to six full-time employees would be required on-site during project operation and maintenance. Based on conservative estimates for vehicular travel, project operation and maintenance is anticipated to have up to 6,198 trips per year, accounting for commutes by six full-time staff, plus up to six additional part-time employees for periodic maintenance activities and material deliveries.
- **Off Road:** The project would require periodic maintenance and battery augmentation. Maintenance is assumed to take approximately 16 days a year, and augmentation activities would occur 10 days a year. Periodic maintenance activities would require up to six part-time employees. Emissions from periodic maintenance and augmentation are calculated by assuming the use of cranes, forklifts, and tractors. The operational emissions were calculated using CalEEMod.
- **Stationary Source:** Emissions from four 250 kW backup generators were assumed to be required for project operation. Backup generators are assumed to be diesel-powered, would comply with EKAPCD and CARB rules and regulations, and would be permitted as required by EKAPCD Rule 202. Emergency backup generators would meet applicable best available control technology. The generators would need to be intermittently run for maintenance and testing purposes and in a manner consistent with CARB's ATCM for Stationary Compression Ignition Engines (17 CCR Section 93115). The operational emissions from emergency generators were calculated using CalEEMod.

Decommissioning

The project anticipates an estimated lifetime of 35 years; however, it may seek an extension of its operation and the appropriate permitting pathways under land use regulations in effect at the time. If any portion of the project site is decommissioned, equipment used for decommissioning project components and restoring the project site could result in temporary impacts on air quality. Given the assumption that much of the construction equipment necessary to construct the project would also be required to decommission the site, it is reasonable to assume that decommissioning activities would be similar in nature to activities associated with construction of the project. However, it should be noted that this assumption does not take into account any future improvement in technology or subsequent reductions in air emissions. Project decommissioning is conservatively projected to be approximately the same time in duration as construction. Therefore, decommissioning emissions are assumed to be the same as construction emissions estimates.

Ambient Air Quality Analysis

The County's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (Kern County 2006) requires a dispersion modeling analysis of the maximum 24-hour average concentrations of PM_{10} and $PM_{2.5}$ resulting from construction in comparison to applicable ambient air quality standards and thresholds; therefore, an ambient air quality analysis was performed for the project during construction. Air dispersion modeling was not performed for the operational emissions as they are below the EKAPCD thresholds of significance and would be intermittent sources, likely to have negligible

impacts. The purpose of the Ambient Air Quality Analysis is to determine whether the project's construction emissions would cause or contribute to exceedances of any CAAQS or NAAQS during construction. The Ambient Air Quality Analysis was performed using AERMOD v24142.

Health Risk Assessment

A Health Risk Assessment (HRA) was prepared to evaluate potential health risks associated with DPM emissions generated during project construction. The HRA was prepared in accordance with the methodologies presented in the *Air Toxics Hot Spots Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015), which superseded the previous 2003 guidance manual. For this analysis, decommissioning emissions were conservatively assumed to be equivalent to construction emissions. An HRA was not conducted for emissions resulting from operation and maintenance activities because operational sources would be limited and are expected to have negligible impacts.

For risk assessment purposes, PM_{10} in diesel exhaust is considered DPM, originating from off-road equipment and on-site trucks operating at a defined location for a given length of time at a given distance from sensitive receptors. These emissions could result in elevated concentrations of DPM at nearby receptors, which could lead to an increase in the risk of cancer or other health impacts. Consequently, an HRA was performed to determine the extent of increased cancer risks and chronic health indices at the maximally exposed receptors from project construction.

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. Kern County's suggested criteria recommends performing a localized CO impact analysis for the following project conditions: a) Level of Service (LOS) of an intersection or roadway identified LOS E or worse; b) signalization and/or channelization is added to an intersection; and c) sensitive receptors such as residences, schools, hospitals, etc. are located in the vicinity of the affected intersection or signalization.

As discussed in **Section 4.15**, *Transportation*, the project would temporarily convert the intersection of 170th Street West and Avenue A from a two-way stop control to an all-way stop control during the PM construction worker commute periods. Temporarily converting the intersection to an all-way stop control would ensure that it operates at a LOS C or above. Furthermore, because project construction is expected to last for 24 months, construction-related emissions would be temporary and would not constitute a long-term source of CO emissions. Project operations would generate minimal emissions. As such, a CO hotspot analysis is not required.

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 Site-Specific Fugitive Dust Control Plan to help control the release of the CI fungus during construction activities.

Visibility Impacts

The County's guidance states that potential impacts to visibility should be evaluated for all industrial projects and any other projects, such as mining projects, with components that could generate dust or emissions related to visibility.

Based on the County's guidelines, a visibility analysis is not required since the project is not a large industrial stationary source or mining project, and it would not have long-term operational components that could generate substantial dust or emissions related to visibility.

Asbestos

There are no quantitative thresholds related to receptor exposure to asbestos. However, EKAPCD Rule 423 (NESHAP and Source Categories) requires all projects to comply with the provisions of Title 40, Chapter I, Parts 61 and 63 of the CFR. Among other requirements, NESHAP specifies work practices to ensure safe handling of asbestos during demolitions and renovations of all facilities, including, but not limited to, structures, installations, and buildings (excluding residential buildings that have four or fewer dwelling units).

Thresholds of Significance

The air quality significance criteria were developed considering approved CEQA air quality checklists, the CEQA significance criteria developed by the local air quality district governing the project area, and other applicable criteria.

Kern County Environmental Checklist Thresholds

The Kern County CEQA Implementation Document and Kern County Environmental Checklist (updated in May 2019) identify the following criteria, as established in Appendix G of the State CEQA Guidelines, to determine if a project could potentially have a significant adverse effect related to air quality. The Kern County Environmental Checklist states that a project would normally be considered to have a significant impact related to air quality if it would:

a. Conflict with or obstruct implementation of the applicable air quality plan;

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. Specifically, would implementation of the project (in a specific location) exceed any of the following adopted thresholds:

i. Eastern Kern Air Pollution Control District:

<u>Operational and Area Sources</u>

- *25 tons per year for ROG*
- *25 tons per year for NO_X*
- *15 tons per year for PM_{10}.*

c. Expose sensitive receptors to substantial pollutant concentrations; or

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Air Quality Plan Consistency

As a component of the cumulative impact analysis, the County's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* states that the following should be included in the consistency determination for existing air quality plans:

- Discuss the project in relation to Kern Council of Government (COG) conformity and traffic analysis zones (TAZ).
- 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.

Eastern Kern Air Pollution Control District

As discussed in the EKAPCD's *Guidelines for Implementation of the CEQA*, a project is determined to not have significant (as defined by CEQA, Section 21068) air quality impact on the environment, if operation of the project would (EKAPCD 1999):

1. *Emit (from all project sources subject to KCAPCD Rule 201) less than offsets trigger levels set forth in Subsection III.B.3. of KCAPCD's Rule 210.1 (New and Modified Source Review Rule);*
2. *Emit less than 137 pounds per day of NOx or Reactive Organic Compounds (ROG) from motor vehicle trips (indirect sources only);*
3. *Not cause or contribute to an exceedance of any California or National Ambient Air Quality Standard;*
4. *Not exceed the District health risk public notification thresholds adopted by the EKAPCD Board;*
5. *Be consistent with adopted federal and state Air Quality Attainment Plans.*

The guidelines reference EKAPCD Rule 208.2 (Criteria for Finding of No Significant Environmental Impact [CEQA], which contains the following operational thresholds for sensitive receptors:

- *Cancer risk impacts – Maximum Exposed Individual (MEI) exceeds 1 in one million*
- *Chronic non-cancer risk impacts – Chronic Hazard Index (HIC) exceeds 0.2;*

Health-Based Thresholds for Project-Generated Pollutants of Human Health Concern

The California Supreme Court's 2018 decision in *Sierra Club v. County of Fresno* (6 Cal. 5th 502) (hereafter referred to as the Friant Ranch Decision) reviewed the long-term, regional air quality analysis contained in the EIR for the proposed Community Plan Update and *Friant Ranch Specific Plan*. The *Friant Ranch Specific Plan* project is a 942-acre master-plan development in unincorporated Fresno County within the San Joaquin Valley Air Basin, an air basin currently in nonattainment under NAAQS and CAAQS for O_3 and $PM_{2.5}$. The Court found that the EIR's air quality analysis was inadequate because it failed to provide enough detail "for the public to translate the bare [criteria pollutant emissions] numbers provided into adverse health impacts or to understand why such a translation is not possible at this time." The Court's decision clarifies that environmental documents must attempt to connect a project's air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

All criteria pollutants that would be generated by the proposed project are associated with some form of health risk (e.g., asthma, lower respiratory problems). Criteria pollutants can be classified as either regional or localized pollutants. *Regional pollutants* can be transported over long distances and affect ambient air quality far from the emissions source. *Localized pollutants* affect ambient air quality near the emissions source. O_3 is considered a regional criteria pollutant, whereas CO, NO_2, SO_2, and Pb are localized pollutants. PM can be both a local and a regional pollutant, depending on its composition. The primary criteria pollutants of concern generated by the proposed project are O_3 precursors (ROG and NO_X), CO, SO_X, and PM (including DPM), because EKAPCD and Kern County Planning Department have developed numerical thresholds for these pollutants.

Ozone Precursors and Regional PM

Adverse health effects induced by regional criteria pollutant emissions generated by the proposed project (O_3 precursors and PM) are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). For these reasons, O_3 precursors (ROG and NO_X) contribute to the formation of groundborne O_3 on a regional scale. Emissions of ROG and NO_X generated in one area may not equate to a specific O_3 concentration in that same area. Similarly, some types of particulate pollutant may be transported over long-distances or formed through atmospheric reactions. As such, the magnitude and locations of specific health effects from exposure to increased O_3 or regional PM concentrations are the product of emissions generated by numerous sources throughout a region, as opposed to a single individual project.

Models and tools have been developed to correlate regional criteria pollutant emissions to potential community health impacts. Although there are models capable of quantifying O_3 and secondary PM formation and associated health effects, these tools were developed to support regional planning and policy analysis and have limited sensitivity to small changes in criteria pollutant concentrations that individual projects induce. Therefore, translating project-generated criteria pollutants to the locations where specific health effects could occur or the resultant number of additional days of nonattainment is not possible with any degree of accuracy.

Technical limitations of existing models to correlate project-level regional emissions to specific health consequences are recognized by statewide AQMDs, including the San Joaquin Valley Air Pollution Control District (SJVAPCD) and South Coast Air Quality Management District (SCAQMD), who provided amici curiae briefs for *the Friant Ranch Decision* legal proceedings. Although the project is not within the SJVAPCD or SCAQMD, the discussion regarding the approach to assessing health risk within the published case and amici curiae briefs are appropriate for reference in all air districts across the state. In its brief, SJVAPCD acknowledged that although health risk assessments for localized air toxics, such as DPM, are commonly prepared, “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 further notes that emissions solely from the *Friant Ranch Specific Plan* project (which equate to less than one-tenth of one percent of the total NO_X and VOC in the Valley) are not likely to yield valid information and that any such information should not be “accurate when applied at the local level.” SCAQMD presents similar information in their brief, stating that “it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels.”

As discussed above, air districts develop region-specific CEQA thresholds of significance in consideration of existing air quality concentrations and attainment designations under NAAQS and CAAQS, which are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. While recognizing that air quality is cumulative problem, air districts typically consider projects that generate criteria pollutant and O_3 precursor emissions below these thresholds to be minor in nature and thus would not adversely affect air quality such that NAAQS or CAAQS would be exceeded. Emissions generated by the proposed project could increase photochemical reactions and the formation of tropospheric O_3 and secondary PM, which, at certain concentrations, could lead to increased incidence of specific health consequences. Although these health effects are associated with O_3 and particulate pollution, the effects are a result of cumulative and regional emissions. Thus, the proposed project's incremental contribution cannot be traced to specific health outcomes on a regional scale, and a quantitative correlation of project-generated regional criteria pollutant emissions to specific human health impacts is not included in this analysis. All feasible mitigation is being applied to reduce construction- and operations-generated emissions of O_3 precursors and PM to the extent possible.

Local Air Quality

Localized Project-Generated Criteria Pollutants (PM and CO) and Air Toxics (DPM)

Localized pollutants generated by a project are deposited and potentially affect populations near the emissions source. Because these pollutants dissipate with distance, emissions from individual projects can result in direct and material health impacts on adjacent sensitive receptors. Models and thresholds are readily available to quantify these potential health effects and evaluate their significance. Locally adopted thresholds and analysis procedures for the localized pollutants of concern associated with the proposed project (PM_{10}/$PM_{2.5}$, DPM, CO, and naturally occurring asbestos) are identified below.

Localized PM_{10} and $PM_{2.5}$

The Kern County Planning Department requires projects to estimate the maximum 24-hour average concentration of PM_{10} and $PM_{2.5}$ at the project boundary and compare concentrations to the appropriate NAAQS, CAAQS, Kern County CEQA thresholds, and the applicable threshold from EKAPCD or SJVAPCD. The project area is considered a nonattainment area for PM_{10} CAAQS, which are more restrictive than the NAAQS. The Kern County Planning Department has not adopted a threshold for areas that exceed CAAQS or NAAQS; however, the SJVAPCD recommends USEPA Significant Impact Level (SIL) values for areas that exceed NAAQS or CAAQS. Significant impact level values are amounts USEPA considers to be a significant contribution in an area that exceeds air quality standards without the project. Therefore, because neither the County nor EKAPCD have adopted localized concentration thresholds for pollutants for which the region is in nonattainment, the SJVAPCD recommended USEPA SIL values are used herein to determine whether the project would present a potentially significant ambient air quality impact. USEPA SIL values used in the analysis are as follows:

- An incremental increase in 24-hour PM_{10} of 5 micrograms per cubic meter (micrograms per cubic meter [$\mu g/m^3$]), or
- An incremental increase in 24-hour $PM_{2.5}$ of 1.2 $\mu g/m^3$.

Diesel Particulate Matter

EKAPCD requires that projects do not exceed the District health risk public notification thresholds adopted by the Kern County Air Pollution Control District Board. Based on EKAPCD reporting per Assembly Bill 2588, EKAPCD's public notification thresholds are as follows:

- A cancer risk exceeding 10 in 1 million, or
- A ratio of the chronic or acute exposure to the reference exposure level ("hazard index") exceeding 1.0.

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 LOS E. Projects that do not generate CO concentrations in excess of the health-based CAAQS or NAAQS would not contribute a significant level of CO such that localized air quality and human health would be substantially degraded.

Naturally Occurring Asbestos

There are no quantitative thresholds related to receptor exposure to asbestos. However, EKAPCD Rule 423 (NESHAP and Source Categories) requires all projects to comply with the provisions of CFR Title 40, Chapter I, Parts 61 and 63.

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 the growth assumptions used to form the applicable air quality plan and the project implements all reasonably available and feasible air quality control measures. The project's consistency with the Air Quality Management Plan (AQMP) is discussed below.

Air quality impacts are controlled through policies and provisions of the EKAPCD, the KCGP, and the Kern County Code of Building Regulations. The CCAA requires air pollution control districts with severe or extreme air quality problems to provide for a 5 percent reduction in nonattainment emissions per year. The Attainment Plans prepared for the EKAPCD comply with this requirement. CARB reviewers approve or amend the document and forward the plan to the USEPA for final review and approval within the SIP.

Required Evaluation Guidelines

CEQA Guidelines and the CAA (Section 176) 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 AQMP is its 2023 Ozone Attainment Plan that is approved by CARB and USEPA.

2. *The project must be consistent with the growth assumptions of the applicable AQMP.* The project is consistent with the KCGP and would not introduce land uses that would generate vehicle trips or promote growth in the project area beyond what is projected in the KCGP and therefore incorporated into the Ozone Attainment 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 KCGP and incorporated into the Ozone Attainment Plan, conclusions may be drawn from the following criteria:

- The findings of the analysis conducted using TAZ show that sufficient employment increase is planned for the project area such that new employment opportunities afforded by the project were included in the growth assumptions used to develop the Ozone Attainment Plan.
- The primary source of emissions from the project would be from construction and operation vehicles that are licensed through the State and whose emissions are already incorporated into CARB's emissions inventory.

Construction

As noted previously, the project's short-term construction emissions are a result of construction equipment and vehicle exhaust, water usage, and fugitive dust associated with vehicle travel on paved and unpaved roads and earth-moving activities. Construction emissions are provided in **Table 4.3-4**, *Short-Term Construction Project Emissions.* As shown in **Table 4.3-4**, temporary unmitigated emissions during construction would not exceed the thresholds adopted by the County for ROG, NO_X, CO, SO_2, PM_{10}, and $PM_{2.5}$.

TABLE 4.3-4: SHORT-TERM CONSTRUCTION PROJECT EMISSIONS

	Pollutant (tons/year)					
	ROG	**CO**	**NOx**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Unmitigated Emissions						
2027 Annual Emissions (tpy)[b]	0.79	10.05	6.65	0.02	7.01	0.99
Mitigated Emissions[b]						
2027 Annual Emissions (tpy)[c]	0.79	10.05	6.65	0.02	2.33	0.52
EKAPCD Annual Thresholds (tpy)[a]	25	--	25	--	15	--
Exceeds Annual Thresholds (Y/N)?	**No**	**NA**	**No**	**NA**	**No**	**NA**

Source: Air Quality and Greenhouse Gas Technical Report (**Appendix B1**)

Notes:

"--" indicates that no significance threshold exists for this pollutant; NA = Not applicable (i.e., no significance threshold exists for this pollutant); tpy = ton per year

[a] The EKAPCD Annual Thresholds were taken from Attachment A of the Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (Kern County 2006).

[b] Refer to **Appendix B1** for the assumptions included in the mitigated emissions scenario.

[c] Represents highest annual emissions generated during construction, which occurs in 2027.

Although mitigation measures are not required to reduce construction emissions below EKAPCD thresholds, they would further ensure emissions remain below thresholds. **Mitigation Measures (MM) 4.3-1** and **MM 4.3-2** would be implemented to further reduce fugitive dust emissions by incorporating a Fugitive Dust Control Plan and other emission reduction features. Exhaust reduction measures included in **MM 4.3-3** would require equipment maintenance, idling restrictions, and compliance with CARB and EKAPCD rules. The project would incorporate all reasonably available and feasible air quality control measures to reduce emissions of criteria pollutants. With the implementation of **MM 4.3-1** through **MM 4.3-4**, impacts associated with construction would not obstruct implementation of an air quality plan and would be less than significant.

Operation

Long-term air emission impacts are associated with any permanent change in the use of a project site by stationary and mobile sources. As stated previously, the project includes mobile source emissions resulting from vehicle trips associated with project operations and maintenance. Long-term operational emissions from mobile sources associated with the project would be limited to vehicle travel by project employees to and on the site for routine maintenance and monitoring activities. Project operations are expected to require up to six full-time positions to maintain the infrastructure, with each employee traveling to the site daily.

The project would include up to four 250-kW diesel-fueled emergency backup generators to provide facility operational redundancies, with two generators located at each collector substation. Each generator would be equipped with a 500-gallon fuel tank. The generators would only operate during power outages and emergency conditions, or for up to 50 hours for periodic maintenance and testing purposes in accordance with CARB's ATCM for Stationary Compression Ignition Engines (17 CCR Section 93115) for Tier 3 engines.

Although the make and model of the backup generators have not been selected, **Appendix B3** includes conservative emissions estimates based on appropriate-sized generators that are currently on the market. Emergency backup generators would be CARB-certified, as required by EKAPCD requirements at the time of permitting, and operated in accordance with applicable federal, State, regional, and local ordinances and regulations. As shown in **Table 4.3-5**, *Project Operational Emissions*, the project's operational emissions would not exceed EKAPCD's significance thresholds even without mitigation incorporated.

While the project's operational emissions would not exceed EKAPCD's significance thresholds, implementation of **MM 4.3-3** requires that the emergency backup generators be CARB-certified Tier 3 engines or higher, consistent with CARB and EKAPCD requirements. The project does not include large stationary sources; therefore, it is not considered a major source of emissions.

TABLE 4.3-5: PROJECT OPERATIONAL EMISSIONS

Unmitigated Operations [a]	Pollutant					
	ROG	**CO**	**NOx**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Operations Maximum Daily Emissions (lb/day)	1.37	17.62	4.92	0.04	2.99	0.90
Emergency Generator Maximum Daily Emissions (lb/day)[b]	0.69	8.92	9.61	3.19	0.51	0.51
Total Operational Maximum Daily Emissions (lb/day)	**2.05**	**26.53**	**14.53**	**3.23**	**3.50**	**1.42**
EKAPCD Daily Thresholds (lb/day)[c]	137	--	137	--	--	--
Exceeds Daily Thresholds (Y/N)?	No	NA	No	NA	NA	NA
Operational Annual Emissions (tpy)	0.03	0.34	0.07	<0.01	0.08	0.02
Emergency Generator Annual Emissions (tpy)[d]	0.02	0.22	0.24	0.08	0.01	0.01

Unmitigated Operations [a]	Pollutant					
	ROG	CO	NOx	SO_2	PM_{10}	$PM_{2.5}$
Operational Annual Emissions (tpy)	**0.05**	**0.57**	**0.31**	**0.08**	**0.09**	**0.03**
EKAPCD Annual Thresholds (tpy)[e]	25	--	25	--	15	--
Exceeds Annual Thresholds (Y/N)?	No	NA	No	NA	No	NA

Source: Air Quality and Greenhouse Gas Technical Report (**Appendix B1**); Supplemental Air Quality and Greenhouse Gas Modeling Technical Memorandum (**Appendix B3**)

"--" indicates that no significance threshold exists for this pollutant; NA = Not applicable (i.e., no significance threshold exists for this pollutant); lb/day = pounds per day; tpy = ton per year

[a] The unmitigated emissions scenario accounts for emission reductions achieved through implementation of best management

practices for dust control, because these are required by existing regulations, and Tier 3 Emergency Generators.

[b] Maximum daily generator emissions assume each generator operates one hour within a single day.

[c] The EKAPCD Daily Thresholds were taken from the Guidelines for Implementation of the California Environmental Quality Act (CEQA) of 1970, as Amended (EKAPCD 1999)

[d] Annual generator emissions assume each generator operates 50 hours per year in accordance with CARB's ATCM for Stationary Compression Ignition Engines (17 CCR Section 93115) for Tier 3 engines.

[e] The EKAPCD Annual Thresholds were taken from Attachment A of the Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (Kern County 2006). Although EKAPCD Rule 210.1 does provide an offset threshold for SO_2, this threshold only applies to new stationary sources or modifications to existing stationary sources and emergency equipment operating more than 200 hours per year. As a result, it is not appropriate for comparison to the project's mobile-oriented operation emission sources or the emergency backup generators.

Table 4.3-6, *Ozone Precursor Emissions Comparison*, compares the project's unmitigated operational ozone precursor emissions to the 2032 ozone precursor emissions projections for the EKAPCD's jurisdiction. The project is expected to be fully operational by 2029. This comparison shows that project operations would emit less than 0.06 percent of the total ozone precursor emissions in the EKAPCD's jurisdiction without mitigation.

TABLE 4.3-6: OZONE PRECURSOR EMISSIONS COMPARISON

Source	ROG Emissions (tpd)	NOx Emissions (tpd)
2032 EKAPCD District-wide On-road Sources[a]	0.50	0.8
2032 EKAPCD District-wide Off-road Sources[a]	4.5	2.5
2032 EKAPCD District-Wide Total Stationary Sources[a]	1.6	12.4
2032 EKAPCD District-Wide Total Mobile and Stationary Sources[a]	6.5	15.7
Euismod Energy Storage Project Operation (Unmitigated)	0.001	0.007
Euismod Energy Storage Project Percentage of EKAPCD District-wide Mobile and Stationary Source Emissions	0.02%	0.05%

Notes:

tpd = tons per day

[a] Source: EKAPCD 2023

Additionally, the project's unmitigated operation emissions would represent a small portion of the transportation conformity budget, as shown in **Table 4.3-7**, *Transportation Conformity Emissions Comparison.*

TABLE 4.3-7: TRANSPORTATION CONFORMITY EMISSIONS COMPARISON

Source	ROG Emissions (tpd)	NOx Emissions (summer tpd)
2029 Kern (MDAB) Conformity Budget[a]	0.6	1.7
Euismod Energy Storage Project Operation (Unmitigated)	0.001	0.007
Euismod Energy Storage Project Percentage of EKAPCD Conformity Budget	0.17%	0.43%

Key: tpd = tons per day

[a] Source: Kern COG 2024

Operation and maintenance of the project is not expected to generate significant dust or particulate emissions and, as described above, would remain below applicable EKAPCD significance thresholds. In addition, the project would store renewable energy for delivery to the electric grid, which could reduce reliance on fossil fuel-based electricity generation within or contributing to the MDAB. To the extent renewable energy storage displaces electricity generated by fossil fuel-powered sources, regional air pollutant emissions could be reduced.

Because emissions from project operation and maintenance activities would not exceed EKAPCD significance thresholds, the project would not conflict or interfere with the implementation of EKAPCD's Ozone Attainment Plan. Thus, impacts would be less than significant.

Decommissioning

Near the end of the anticipated operational life of up to 35 years after the start of commercial operations, the project proponents would determine whether the project should be decommissioned and deconstructed or if it would seek an extension of its operation and the appropriate permitting pathways under land use regulations in effect at the time. If any portion of the project site is decommissioned, the project components would be removed from the project site to facilitate conversion of the project site to other uses in accordance with the applicable land use regulations in effect at that time. As required by **MM 4.11-1**, the project would develop a decommissioning plan and financial assurances for the County's review and approval. Decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities as well as all applicable local, State, and federal requirements.

Because decommissioning would involve many of the same equipment types used during project construction, decommissioning emissions are expected to be similar to or less than construction activities. As shown in **Table 4.3-4**, *Short-Term Construction Project Emissions*, neither mitigated nor unmitigated construction emissions would exceed EKAPCD thresholds. Accordingly, project decommissioning would not conflict with or obstruct implementation of an air quality plan, and impacts would be less than significant.

Consistency with the Kern Council of Government's Regional Conformity Analysis

The Kern COG Regional Conformity Analysis Determination for the 2025 FTIP and 2022 RTP demonstrates that the regional transportation expenditure plans in the Kern County portion of the Mojave Desert air quality attainment areas would not hinder the efforts set out in CARB's SIP for each area's non-attainment pollutants (CO, O_3, and PM_{10}) (Kern COG 2024). The analysis uses an adopted regional growth forecast, governed by both the adopted Kern COG Policy and Procedure Manual and a Memorandum of Understanding between Kern County and Kern COG (representing itself and outlying municipal member agencies).

The Kern COG Regional Conformity Analysis considers General Plan Amendments (GPA) and zone changes that were enacted at the time of the analysis as projected growth within the area based on land use designations incorporated within the KCGP. Land use designations that are altered based on subsequent GPAs that were not included in the Regional Conformity Analysis were not incorporated into the Kern COG analysis. Consequently, if a proposed project is not included in the regional growth forecast using the latest planning assumptions, it may not be said to conform to the regional growth forecast.

Item 2 under Section 3 – Model Maintenance Procedure, of the Kern COG Regional Transportation Modeling Policy and Procedure Manual states "Land Use Data – General Plan land capacity data or 'Build-out capacity' is used to distribute the forecasted County totals, and may be updated as new information becomes available, and is revised in regular consultation with local planning departments" (Kern COG 2023).

The project parcels are currently zoned A (Exclusive Agriculture) and E (Estate). Many project parcels also contain one or more of the following combining districts: Floodplain Secondary (FPS), Wind Energy (WE), and Residential Suburban (RS). In addition, a review of the Kern COG regional forecast was conducted to evaluate if the growth forecast in the project area would be sufficient to account for the project's projected employment increase. The adopted growth forecasts are assigned to TAZs; a review of the growth forecast one mile from a project presents a conservative assessment of the project area. Given that the project would only require up to six full-time employees, the current growth forecast accounts for the proposed employment increase; therefore, the project is consistent with the regional growth forecast. Additionally, although traffic associated with the project site may increase during construction, those increases would be temporary. Therefore, project construction would be consistent with the TAZs.

SCE Whirlwind Substation Upgrades

The project includes two 220-kV overhead tie-lines to the Southern California Edison (SCE) Whirlwind Substation located on the adjacent parcels south of the project site. SCE's work activities outside of the Whirlwind Substation, including tie-line access clearing, installing telecommunications lines and tie-line support poles or towers, stringing overhead conductors, and operating and maintaining tie-lines to the Point of Change of Ownerships (POCOs), would disturb all land within a 100-foot-wide corridor centered on each of the off-site tie-line alignments. Within the existing SCE Whirlwind Substation, each tie-line would require the installation of facilities for a new 220-kV switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3.0,** *Project Description.*

Construction emissions associated with the SCE Whirlwind substation upgrades were included in the project's total construction emission burden shown in **Table 4.3-4**, *Short-Term Construction Project Emissions*. As such, construction activities associated with the SCE Whirlwind substation upgrades and tie-lines would not exceed EKAPCD's significance thresholds and would not conflict with any applicable AQMP. SCE would comply with all applicable State and federal laws and regulations during construction and operation. Impacts would be less than significant.

Mitigation Measures

MM 4.3-1: The project shall continuously comply with applicable rules and regulations set forth by the East Kern Air Pollution Control District.

MM 4.3-2: Prior to the issuance of grading or building permits, the project proponent shall prepare a comprehensive Site-Specific Fugitive Dust Control Plan in coordination with the

EKAPCD. A copy of the final plan shall be submitted to the Kern County Planning and Natural Resources Department to be kept on file. The plan shall be implemented throughout the life of the project to control fugitive PM emissions, and include Eastern Kern Air Pollution Control District-recommended measures, including but not limited to, the following:

a. Identify a comprehensive grading schedule for the entire project site. When feasible, grading activities shall be phased and minimized to those areas necessary for project access and installation of solar panels and other areas of infrastructure associated with the solar facility.

b. The Site-Specific Fugitive Dust Control Plan shall identify, in addition to those measures required by the air district, measures being undertaken during construction activities, operational activities and decommissioning activities to ensure fugitive dust being blown off site is minimized. Measures may include, but are not limited to:

    1. Use of water trucks as required for the expected level of wind in the area.

    2. Use of dust suppressant (i.e., soil binders or mulch).

    3. Pre-seeding and irrigating prior to construction to create vegetation with useful root structures.

    4. Construction of dust screening in appropriate locations around the project site (i.e., fence slats or mesh screening).

    5. A copy of the final Site-Specific Fugitive Dust Control Plan shall be kept at the site construction office and measures included in the Site-Specific Fugitive Dust Control Plan shall be included on the Grading Plans issued for the project by the Kern County Public Works Department.

MM 4.3-3: The project proponent and/or its contractors shall continuously implement the following measures during project construction, operation, and decommissioning to control emissions, and are subject to verification by the County:

a. Off-road equipment engines with over 25 horsepower shall be equipped with USEPA 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. All equipment shall be maintained in accordance with the manufacturer's specifications.

e. All equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 5 minutes. Engine idling of all equipment shall be minimized.

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. All on-site off-road equipment and on-road vehicles shall meet the recent CARB engine emission standards or alternatively fueled equipment, such as compressed natural gas, liquefied natural gas, or electric, as appropriate.

i. Existing electric power sources shall be used to the extent feasible. This measure would minimize the use of higher polluting gas or diesel generators.

MM 4.3-4: Prior to commencement of any onsite construction activities (i.e., fence construction, mobilization of construction equipment, initial grading), including decommissioning, the project proponent shall provide written notice to the public through mailing a notice to property owners of all parcels within 1,000 feet of the project site, no sooner than 15 days prior to construction activities. The notices shall include the construction schedule, a telephone number and email address where complaints and questions can be registered. Additionally, a minimum of one sign, legible at a distance of 50 feet, shall also be posted at the construction sites or adjacent to the nearest public access to the main construction entrances throughout construction activities which include the construction schedule (updated as needed) and a telephone number where complaints can be registered. Documentation that the public notice has been sent and the sign has been posted shall be provided to the Kern County Planning and Natural Resources Department.

MM 4.3-5: Prior to the issuance of any grading or building permit, the project proponent shall establish a "construction coordinator" and submit written documentation which includes their phone number, email address and mailing address. The construction coordinator shall be responsible for the following:

a. Responding to any local complaints about construction activities. The construction coordinator shall determine the cause of the construction complaint and shall be required to implement reasonable measures such that the complaint is resolved.

b. Ensuring all appropriate construction notices have been made available to the public and that all appropriate construction signs have been installed.

c. Maintaining an ongoing up-to-date log of all construction related complaints (i.e., blowing dust, inability to access parcels, etc.) during project construction activities. The log shall include the nature of the complaint and the measures that were undertaken to address the concerns. Upon request, the construction coordinator shall provide the log to the Planning and Natural Resources Department no later than three business days from request.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.3-2: The project would expose sensitive receptors to substantial pollutant concentrations.

Sensitive receptors are particularly sensitive to air pollution because they are persons who are ill, elderly, or have lungs that are not fully developed. Locations where such persons reside, spend considerable amounts 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 nearest sensitive receptor is a residence located approximately 680 feet (0.13 miles) northeast of the project site. Four other potential residential receptors are located approximately 980 feet (0.18 miles), 1,320 feet (0.25 miles), 1,250 feet (0.24 miles), and 3,810 feet (0.72 miles) from the project site. These receptors could be exposed to criteria air pollutants and TACs emitted during project construction and operation. A complete list of receptors used in the analysis is provided in **Appendix B3**. Potential pollutant concentrations, including those associated with CO hotspots, reduced visibility, and increased health risks in the project vicinity, including exposure to Valley Fever, are discussed below. A

Toxic Air Contaminants

Projects that introduce new or modified sources of TACs in proximity to residential uses or other sensitive receptors are evaluated for potential health risks. The primary TAC of concern for the project would be DPM emissions from construction equipment and heavy-duty diesel vehicles. DPM emissions would occur during construction activities associated with on-site equipment operation and worker, material, and delivery trips. TAC emissions generated during project operation would be minimal and would not be distinguishable from existing regional emission sources.

Construction

EKAPCD's *Guidelines for Implementation of CEQA* public notification thresholds were used to determine construction impact significance after consultation with the EKAPCD. Discussions with the EKAPCD clarified that Rule 208.2 significance thresholds were used as criteria for the District to determine whether new or modified emissions units (as defined in Rule 210.1, Subsection II.L.) would cause a significant impact during operation and would not be applicable to temporary construction emission sources. Furthermore, the decision to use the *Guidelines for Implementation of CEQA* public notification thresholds has precedence, as they have been used by several other California air districts and are values recommended by CAPCOA. These thresholds are outlined in Table 2, HRA Thresholds, in EKAPCD's 2024 Annual AB2588 Air Toxics Report. Details of the screening HRA for construction DPM are included in **Appendix B2** of this Draft EIR.

Table 4.3-8, *Screening HRA for Mitigated Construction Emissions*, summarizes HRA results for the maximally exposed individual resident (MEIR) and additional exposed sensitive receptors. The maximally exposed individual worker (MEIW) was not assessed as the project site is located in a remote location and no worker receptors were identified within a mile of the project area. As shown in **Table 4.3-8,** *Screening HRA for Mitigated Construction Emissions*, cancer risks for the MEIR and other sensitive receptors would be below the EKAPCD's *Guidelines for Implementation of CEQA* public notification thresholds of 10 in 1 million for cancer risk, and 1 for non-cancer hazard indices, and therefore impacts would be less than significant.

TABLE 4.3-8: SCREENING HRA FOR CONSTRUCTION EMISSIONS

Receptor Type	Cancer Risk (Persons per million)	Chronic Hazard Index	Exceeds EKAPCD Thresholds (Y/N)?	Receptor Coordinates (UTM NAD 83 Zone 10)	
				Easting (meters)	Northing (meters)
Residential 3 (MEIR)	2.6	0.002	N	369,188	3,859,503
Residential 2	2.0	0.001	N	369,228	3,859,585
Residential 1	1.5	0.001	N	369,246	3,859,693
Residential 4	1.3	0.001	N	369,446	3,859,395
Residential 5	0.1	<0.001	N	370,223	3,858,782
EKAPCD's public notification threshold:	**10**	**1**			

Notes:
NAD = North American Datum; UTM = Universal Transverse Mercator; MEIR –Maximally Exposed Individual Resident;

It should be noted that the cancer risk presented in the analysis assumes worst-case construction conditions, including the operation of all construction activities occurring simultaneously for 11 hours a day and incorporation of emissions from the construction activities associated with the Whirlwind Substation upgrades and tie-lines. Typical construction emissions exposure levels would likely be lower because construction activities would occur in phases, emission sources would change as the location of the work being conducted moves throughout the project site over time, and the weather conditions would vary. In addition, the construction equipment used in CalEEMod assumes an average USEPA engine Tier for emission calculations. Implementation of **MM 4.3-3** would require the use of USEPA Tier 3 or better off-road equipment engines greater than 25 horsepower, which would substantially reduce DPM emissions.

Operation

Operational emissions would not exceed EKAPCD's significance thresholds for any criteria pollutant and would not be expected to result in any TACs, except for DPM emitted from diesel-fueled trucks and the four emergency backup generators. The emergency generators would represent the project's only stationary source of TAC emissions and would operate only during emergency conditions and periodic maintenance and testing conducted in accordance with CARB's ATCM for Stationary Compression Ignition (CI) Engines.

The emergency generators would be permitted by the EKAPCD and operated in compliance with applicable federal, State, regional, and local regulations. In addition, **MM 4.3-3** would require the use of USEPA Tier 3 or better engines, consistent with EKAPCD permitting requirements. As shown in **Table 4.3-5**, *Project Operational Emissions*, the project's operational emissions would be below EKAPCD's significance thresholds. Given the limited frequency of generator use, low emission levels, and compliance with applicable regulatory requirements, project operation would not result in significant health risk impacts. Therefore, an HRA was not warranted for project operations, and operational TAC impacts would be less than significant.

Decommissioning

Decommissioning activities are anticipated to occur approximately 35 years after the initial start-up of the facilities, and therefore diesel vehicles would be subject to greater restrictions and newer technologies that would reduce future diesel emissions. However, it is conservatively assumed in this analysis that the

decommissioning health risk would be equivalent to that of the construction health risk. As with construction, **MM 4.3-3** would require the use of USEPA Tier 3 or better off-road equipment engines greater than 25 horsepower, which would substantially reduce DPM emissions. As a result, the project's health risk impacts would be less than significant.

Ambient Air Quality Analysis and Criteria Air Pollutants

Construction

An ambient air quality analysis was performed to determine whether project construction emissions would result in or contribute to exceedances of any CAAQS or NAAQS pollutants. Project construction would include equipment and truck exhaust and activities that cause ground disturbance. Uncontrolled emissions of PM could result in increased concentrations that could have an adverse impact on localized air quality.

As previously described, the County requires projects to estimate the maximum 24-hour average concentration of PM_{10} and $PM_{2.5}$ at the project boundary and compare concentrations to the appropriate NAAQS, CAAQS, Kern County CEQA thresholds, and the applicable threshold from EKAPCD or SJVAPCD. The Kern County Planning Department has not adopted a threshold for areas that exceed CAAQS or NAAQS; however, the SJVAPCD recommends USEPA SIL values for areas that exceed NAAQS or CAAQS. Significant impact level values are amounts USEPA considers to be a significant contribution in an area that exceeds air quality standards without the project. Therefore, because neither the County nor EKAPCD have adopted localized concentration thresholds for pollutants for which the region is in nonattainment, the SJVAPCD recommended USEPA SIL values are used herein to determine whether the project would present a potentially significant ambient air quality impact. The USEPA SIL values used in the analysis are as follows:

- An incremental increase in 24-hour PM_{10} of 5 µg/m3, or
- An incremental increase in 24-hour $PM_{2.5}$ of 1.2 µg/m3.

Localized concentrations of PM_{10} and $PM_{2.5}$ emissions were evaluated to determine maximum predicted concentrations of both PM_{10} and $PM_{2.5}$.

As provided in **Table 4.3-9**, *24-Hour PM_{10} and $PM_{2.5}$ Construction Impacts*, mitigated project construction would generate ambient construction levels of PM_{10} above the USEPA SIL of 5 µg/m^3 at the project fenceline.

TABLE 4.3-9: 24-HOUR PM_{10} AND $PM_{2.5}$ MITIGATED CONSTRUCTION IMPACTS

Pollutant	Modeled Impact (µg/m^3)	Significant Impact Level (µg/m^3)	Above the Significant Impact Level (Y/N)
24-hour PM_{10}[a]	5.30	5	Y
24-hour $PM_{2.5}$[b]	0.86	1.2	N

Key: µg/m^3 = microgram per cubic meter

Notes:

Assumptions used in the analysis are detailed in the Air Quality and Greenhouse Gas Technical Report (**Appendix B1**).

[a] Modeled result represents the high-first-high 24-hour modeled concentration.

[b] Modeled result represents the high-first-high five-year average 24-hour modeled concentration.

Source: Air Quality and Greenhouse Gas Modeling Technical Memorandum (**Appendix B3).**

The project would implement **MM 4.3-1** through **MM 4.3-3** to reduce emissions of PM_{10} and $PM_{2.5}$ during construction, including diesel emission reduction strategies and compliance with EKAPCD Rules and Regulations for dust control. Additionally, as previously discussed, the construction emissions and impact analysis assume conservative, worst-case conditions throughout the temporary construction period. Nevertheless, the air quality analysis shows predicted impacts could be above the USEPA SIL for PM_{10}, resulting in a significant and unavoidable temporary construction impact.

Operation

During operations, potential sources of PM emissions would consist of on-site maintenance vehicles, occasional delivery trucks, and emergency backup generators testing and operation. As illustrated in **Table 4.3-5,** *Project Operational Emissions*, operational emissions would be lower than construction-related emissions and would not exceed applicable significance thresholds. Accordingly, impacts related to operational emissions and ambient air quality standards would be less than significant.

Decommissioning

Decommissioning activities would be conducted in accordance with all applicable local, State, and federal requirements and best management practices. Equipment operation and site restoration activities could generate temporary PM emissions; however, decommissioning activities would be generally similar to, but shorter and less intensive than construction, since grading would not occur. Emissions from decommissioning would be reduced by implementing **MM 4.3-1** through **MM 4.3-3**. Accordingly, decommissioning emissions are not projected to exceed applicable thresholds, and impacts related to decommissioning emissions and ambient air quality standards would be less than significant.

CO Hotspots

A CO "hotspot" can occur when vehicles are idling at highly congested intersections. CO hotspots can adversely affect nearby sensitive receptors. The Kern County Planning and Natural Resources Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (Kern County 2006) states that CO hotspots must be analyzed when one of the following conditions occur: (1) a project increases traffic at an intersection or roadway that operates at an LOS E or worse; (2) a project involves adding signalization and/or channelization to an intersection; or (3) 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, which would be temporary, such that construction would not result in a long-term source of CO emissions. As discussed in **Section 4.15**, *Transportation*, **MM 4.15-1**, would require that the project temporarily convert the intersection of 170th Street West and Avenue A from a two-way stop control to an all-way stop control during the PM construction worker commute periods. Temporarily converting the intersection to an all-way stop control would ensure that it operates at a LOS C or above. Additionally, the closest sensitive receptor is located 0.5 miles east of the intersection and would not be impacted. As such, a CO hotspot analysis is not required, and the potential project-generated impacts associated with CO hotspots would be less than significant.

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. CEQA does not require the analysis of project impacts on project workers; however, project workers are considered in this section for informational

purposes. Because dust can be an indicator that increased efforts are needed to control other airborne particulates (including CI spores, if any), the project is required to control dust and the potential for exposure to any CI spores as well as provide training and awareness of Valley Fever via **MM 4.3-6** and **MM 4.3-7**.

As stated previously, **MM 4.3-2** requires the project to have comprehensive site construction controls in place to proactively control the generation of fugitive dust as required and regulated by the EKAPCD Rule 402. This rule also requires the site to have a designated dust monitor, as well as visible signage for nearby residents with the phone number for the site construction management and EKAPCD for nearby residents use if they see blowing dust.

Implementation of **MM 4.3-6** requires that training be provided to construction workers on measures they must take to proactively control and reduce fugitive dust and the potential for the release of CI spores during their ground disturbing activities, training on specific worker/task safety procedures, and general information regarding symptoms testing and treatment options for Valley Fever. All workers would be trained in and are expected to use their "stop work" authority if their activities are deemed to be causing the release of fugitive dust. This mitigation measure also requires that an educational Valley Fever Training Handout be developed for distribution to onsite workers and nearby residents. This handout contains general information about the causes, symptoms, and treatment instructions regarding Valley Fever, including contact information of local health departments and clinics knowledgeable about Valley Fever. In addition, **MM 4.3-7** would require a one-time fee of $3,200 to be paid to the Kern County Public Health Services Department Valley Fever public awareness programs. With implementation of the mitigation measures, dust from the construction of the project would not add significantly to the existing exposure level of people to this fungus, including construction workers.

With the implementation of **MM 4.3-2, MM 4.3-6**, and **MM 4.3-7**, the potential for the release of CI spores, if present, and the associated potential for workers or nearby residents to contract Valley Fever would be minimized. Accordingly, impacts would be less than significant.

Visibility Impacts

As discussed above under *Methodology*, the County has established criteria to determine if a project would potentially result in a visibility impact due to dust or emissions; however, the EKAPCD has not established guidance to address visibility in CEQA documents. Per the County's 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 related to visibility. Compliance with EKAPCD Rule 402, including the implementation of **MM 4.3-2** for a Site-Specific Fugitive Dust Control Plan, would sufficiently reduce visibility-related impacts during construction. Although the Site-Specific Fugitive Dust Control Plan does not apply to tailpipe emissions from construction equipment or vehicles, the combustion equipment emissions associated with the project are not expected to have a significant impact on visibility and would be mitigated with **MM 4.3-3**. Therefore, the project's potential to expose sensitive receptors to substantial pollutant concentrations associated with potential visibility impacts would be less than significant.

Asbestos

Naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects,

and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading of development projects, and at mining operations.

Serpentine 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 (DOC 2011). 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 USEPA 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 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 an attainment area for O_3 (1-hour), PM_{10} and $PM_{2.5}$ and nonattainment for O_3 (8-hour) under NAAQS, and nonattainment for O_3, PM_{10}, and $PM_{2.5}$ under CAAQS.

The accumulation and dispersion of air pollutant emissions within an air basin is dependent upon the size and distribution of emission sources in the region and meteorological factors such as wind, sunlight, temperature, humidity, rainfall, atmospheric pressure, and topography. The air districts, including EKAPCD, establish and recommend that the analyses of criteria air pollutants use CEQA significance thresholds that are set at emission levels tied to the region's attainment status and are based on emission levels at which stationary pollution sources permitted by the air district must offset their emissions. Such offset levels allow for growth while keeping the cumulative effects of new sources at a level that will not impede attainment of the NAAQS. The health risks associated with exposure to criteria pollutants are evaluated on a regional level, based on the region's attainment of the NAAQS. The mass emissions significance thresholds used in CEQA air quality analysis are set such that if a project's contribution is less than the threshold, then the project would not make a cumulatively considerable contribution to regional emissions in a manner that would cause the region to exceed its NAAQS or CAAQS. The NAAQS and CAAQS thresholds are set at conservative levels to protect human health.

As shown in **Table 4.3-1**, *National and State Criteria Pollutant Standards and EKAPCD Attainment Status* above, the MDAB is currently in state and federal nonattainment status for ozone and PM_{10}. Although ozone would not be directly emitted by construction equipment for the proposed project, the ozone precursors ROG and NO_X would be emitted, as well as the other criteria pollutants of CO, SO_X, PM_{10}, and $PM_{2.5}$. Given that ozone formation occurs through a complex photo-chemical reaction between NO_X and ROG in the atmosphere with the presence of sunlight, the impacts of ozone are typically considered on a basin-wide or regional basis and not on a localized basis. The health-based ambient air quality standards for ozone are established as concentrations of ozone and not as tonnages of their precursor pollutants (i.e., NO_X and ROG). It is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting ozone or PM. Because of the complexity of ozone formation and the non-linear relationship of ozone concentration with its precursor gases and given the state of environmental science modeling in use at this time, it is not practical to determine whether, or the extent to which, a single project's precursor (i.e., NO_X and ROG) emissions would potentially result in the formation of secondary ground-level ozone and the geographic and temporal distribution of such secondary formed emissions.

Meteorology, the presence of sunlight, seasonal impacts, and other complex photochemical factors all combine to determine the ultimate concentration and location of ozone.

In the 2018 decision *Sierra Club v. County of Fresno*, the Supreme Court held that CEQA requires environmental impact reports to either (i) make a "reasonable effort" to substantively connect the estimated amount of a given air pollutant a project will produce and the health effects associated with that pollutant, or (ii) explain why such an analysis is infeasible (6 Cal.5th at 1165-66). However, the Court also clarified that CEQA "does not mandate" that EIRs include "an in-depth risk assessment" that provides "a detailed comprehensive analysis … to evaluate and predict the dispersion of hazardous substances in the environment and the potential for exposure of human populations and to assess and quantify both the individual and population wide health risks associated with those levels of exposure." *Id.* at 1665. However, correlating the project's criteria air pollutant to specific health impacts, particularly with respect to O_3, is extremely difficult because there is no established scientific method to perform such analysis. This conclusion is supported by both the SJVAPCD and the SCAQMD, who have determined that this type of analysis does not yield informative results for short-term construction related exceedances of air district thresholds. There are no unique issues for the EKAPCD that would make this analysis invalid.

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 the SJVAPCD, its thresholds are based on factual scientific data and have been set at a level that ensures 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 O_3 and its precursors NO_X, ROG, and VOC; O_3 is not directly emitted into the air, but is instead formed as ozone precursors undergo complex chemical reactions through sunlight exposure (SJVAPCD 2015). Given the complex nature of this process and the fact that O_3 can be transported by wind over long distances, "a specific tonnage amount of NO_X or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area" (SJVAPCD 2015). For this reason, the photochemical analysis for O_3 is done on a regional scale and it is inappropriate to analyze O_3 impacts at a local or project-level basis because a localized analysis would at most be speculative and at worst be misleading. Speculative analysis is not required by CEQA (*CEQA Guidelines* Section 15145; *Laurel Heights Improvement Association v. Regents of the University of California 1988*).

The SCAQMD agrees that it is very difficult to quantify health impacts with regard to O_3, opining that the only possible means of successfully doing so is for a project so large that emissions would essentially amount to all regional increases (SCAQMD 2015). The amicus briefs filed by SJVAPCD and SCAQMD in *Sierra Club* are attached as part of **Appendix B4**.

The project's construction emissions would not exceed the EKAPCD's thresholds and are unlikely to result in chronic adverse health impacts. Further, models designed to determine health impacts from air pollution generally look at long-term exposures, making them not particularly informative of health impacts from short-term exposures such as would be experienced by people residing in the vicinity of a construction site. The project proposes the construction and operation of a large-scale utility solar project that would require

dust-generating construction activities such as piledriving, mowing, and grading, over a large area. During construction, the project would implement **MM 4.3-1** through **MM 4.3-5** to reduce the project's regional and localized health effects associated with criteria air pollutants, particularly PM.

Regarding health effects of criteria air pollutants, implementation of **MM 4.3-3** would reduce the project's potential to result in regional health effects associated with ROG, NOX, PM_{10}, and $PM_{2.5}$; however, localized health effects associated with NO_X, PM_{10}, and $PM_{2.5}$ could occur. However, implementation of the mitigation measures described in Impacts 4.3-1 and Impact 4.3-2 above would reduce both localized and regional project-generated construction and operational emissions.

The project's operational emissions are less than EKAPCD's thresholds and thus would not contribute to an exceedance of the NAAQS or the CAAQS in the vicinity, which, as discussed above, are set at levels that protect human health. As such, it can be reasonably inferred that the project's operational emissions would not result in significant health impacts.

Due to the open nature of the project site, blowing dust could occur and result in the dispersal of criteria air pollutants such as $PM_{2.5}$ and potentially contribute to the transmission of respiratory diseases like COVID-19. Since COVID-19 is understood to spread as a result of close, person-to-person contact, especially within poorly ventilated indoor spaces, the likelihood of emissions from the proposed project directly increasing the spread of COVID-19 is remote. However, a nationwide study by Harvard University found a linkage between long-term exposure to $PM_{2.5}$ as air pollution and statistically significant increased risk of COVID-19 death in the United States (Xiao et al. 2020). As noted previously, construction dust suppression measures would be implemented as part of **MM 4.3-2**. Additionally, after implementation of **MM 4.3-1** through **MM 4.3-7**, the project would implement **MM 4.3-8**, which requires implementation of a COVID-19 Health and Safety Plan in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates. With implementation of **MM 4.3-1** through **4.3-8**, impacts would be less than significant.

SCE Whirlwind Substation Upgrades

The Whirlwind Substation upgrades and tie-lines would represent a small portion of the overall project emissions, and are included in the project analysis discussed above. SCE would comply with all applicable State and federal laws and regulations, including those regarding exposing sensitive receptors to substantial pollutant concentrations. Thus, impacts would be less than significant.

Mitigation Measures

Implementation of **Mitigation Measures MM 4.3-1** through **MM 4.3-5**, and:

MM 4.3-6: To minimize personnel and public exposure to potential Valley Fever-containing dust on and offsite, the following control measures shall be implemented during project construction:

a. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved offsite to other work locations.

b. Wherever possible, grading and trenching work shall be phased so that earth-moving equipment is working well ahead or downwind of workers on the ground.

c. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area.

d. In the event that a water truck runs out of water before dust is sufficiently dampened, ground workers being exposed to dust shall leave the area until a truck can resume water spraying.

e. To the greatest extent feasible, heavy-duty earth-moving vehicles shall be closed-cab and equipped with a HEP-filtered air system.

f. Workers shall receive training in procedures to minimize activities that may result in the release of airborne CI spores, to recognize the symptoms of Valley Fever, and shall be instructed to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Evidence of training shall be provided to the Kern County Planning and Natural Resources Department.

g. A Valley Fever informational handout shall be provided to all onsite construction personnel. The handout shall, at a minimum, provide information regarding the symptoms, health effects, preventative measures, and treatment. Additional information and handouts can be obtained by contacting the Kern County Public Health Services Department.

h. Onsite personnel shall be trained on the proper use of personal protective equipment, including respiratory equipment. National Institute for Occupational Safety and Health–approved respirators shall be provided to onsite personnel upon request. When exposure to dust is unavoidable, provide appropriate National Institute for Occupational Safety & Health-approved respiratory protection to affected workers, if necessary. If respiratory protection is deemed necessary, employers must develop and implement a respiratory protection program in accordance with California Division of Occupational Safety and Health's Respiratory Protection standard (8 CCR 5144).

MM 4.3-7: Prior to the issuance of grading permits, a one-time fee shall be paid to the Kern County Public Health Services Department in the amount of $3,200 for Valley Fever public awareness programs.

MM 4.3-8: At the time of project implementation, a COVID-19 Health and Safety Plan should be prepared in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates. A copy of the COVID-19 Health and Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department for review and approval.

Level of Significance after Mitigation

With implementation of **MM 4.3-1** through **MM 4.3-3**, criteria air pollutant construction impacts would be short-term, significant, and unavoidable. Operational and decommissioning impacts would be less than significant. Impacts related to valley fever would be less than significant.

Impact 4.3-3: The project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Land uses that commonly generate objectionable odors include agricultural operations, wastewater treatment facilities, food processing plants, chemical plants, composting facilities, refineries, landfills, and dairies. The occurrence and severity to which odors may affect surrounding populations depends on the

characteristics of the odor source, including its frequency, duration, and intensity, as well as site-specific conditions, such as the size of the project site, prevailing wind conditions, and the distance between the source and nearby receptors.

Construction

During construction activities, temporary odors would be generated primarily from vehicle and equipment exhaust emissions, which are typical of construction sites. Although construction-related emissions may result in localized odors, they would be short-term and intermittent in nature. Compliance with CCR Title 13, Section 2485, which limits diesel-fueled vehicle idling to 5 minutes, along with implementation of **MM 4.3-2** and **MM 4.3-4,** would further reduce the potential for detectable odors. The project would also comply with all applicable EKAPCD regulations to minimize odors.

Given the temporary nature of construction activities, prevailing wind conditions, and the distance between the project site and nearby occupied areas, construction-related odors would not adversely affect a substantial number of people. As such, impacts would be less than significant.

Operation

Project operation would not include land uses typically associated with objectionable odor-producing uses identified above. The primary source of operation-related odors would be diesel exhaust emissions from infrequent delivery truck trips and operation of emergency backup generators. Delivery trips would occur intermittently, and emergency generators would be limited to maintenance testing and emergency use, with operation expected to occur no more than 50 hours per year. Given the size of the project area, infrequent nature of these activities, and the rapid dispersion of diesel exhaust emissions, project operation and maintenance would not generate objectionable odors that would affect a substantial number of people. Therefore, the project would not result in odor emissions that would adversely affect a substantial number of people. Accordingly, impacts would be less than significant.

Decommissioning

The potential for project decommissioning to generate objectionable odors would be similar to construction. Decommissioning activities would generate temporary odors primarily from vehicle and equipment exhaust emissions. As with construction, compliance with all applicable state and local regulations would minimize potential impacts. Given the temporary nature of decommissioning activities and the rapid dispersion of exhaust emissions, decommissioning-related odors would not adversely affect a substantial number of people. As such, impacts would be less than significant.

SCE Whirlwind Substation Upgrades

The work activities associated with the SCE Whirlwind Substation upgrades and tie-lines would require similar diesel-fueled equipment and vehicles as the overall project. However, the use of such equipment and vehicles would not result in emissions adversely affecting a substantial number of people. SCE would comply with all applicable State and federal requirements regarding emissions. As stated previously in the project analysis, potential odor sources during construction activities, such as diesel exhaust, would be temporary and intermittent and would not affect a substantial number of people. Therefore, impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.3-2** and **MM 4.3-4** would further reduce impacts.

Level of Significance

Impacts would be less than significant.

4.3.5 Cumulative Setting, Impacts, and Mitigation Measures

The County's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* 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 6-mile radius for regional impacts and a 1-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. As described in **Table 3-4**, *Cumulative Projects List*, in **Chapter 3**, *Project Description*, there are five cumulative projects proposed within the cumulative impact study area.

Impact 4.3-4: The project would result in a cumulatively considerable net increase of criteria pollutants for which the project's 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 vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. Therefore, such emission levels can only be estimated with a corresponding uncertainty in precise ambient air quality impacts. In addition, the analysis of criteria air pollutants is inherently cumulative because the thresholds are set to account for existing significant cumulative impacts in the air basin.

Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the project applicant and are intended to represent a reasonable scenario based on the best information available. As provided in **Table 4.3-4,** *Short-Term Construction Project Emissions*, construction of the project would result in emissions of the following nonattainment pollutants: ozone precursors (NOX and VOC) and PM_{10}. These emissions would be temporary (occurring over an approximately 24-month period), and both unmitigated and mitigated emissions would be below EKAPCD significance thresholds. Construction activities are temporary and would cease upon completion of construction, and would therefore not contribute to long-term air pollution impacts in the MDAB. In addition, implementation of **MM 4.3-1** through **MM 4.3-3** would further ensure that NOx, PM_{10}, and $PM_{2.5}$ emissions during project construction remain below the thresholds by employing emissions reduction strategies and notifying surrounding property owners of construction activities. **MM 4.3-6** and **MM 4.3-7** would address potential Valley Fever risk by implementing fugitive dust control measures, establishing a public complaint protocol for excessive dust generation, and requiring Valley Fever-related training for construction workers. Finally, **MM 4.3-8** would require the implementation of a COVID-19 Health and

Safety Plan to address any potentially lingering COVID-19 symptoms exacerbated by increased $PM_{2.5}$ emissions. Therefore, project construction would not result in a cumulatively considerable contribution to significant cumulative air quality impacts.

Operations

Operation of the project would result in minimal emissions of criteria air pollutants. As shown in **Table 4.3-5**, *Project Operational Emissions*, emissions associated with project operations would not exceed applicable EKAPCD significance thresholds. Therefore, potential operational emissions would be less than significant, and no mitigation measures are required. Details of the operational emission estimates are provided in **Appendix B3** of this Draft EIR.

Decommissioning

The timing, number, and scope of cumulative projects that may be occurring at the time of decommissioning are unknown. Nonetheless, it is assumed that decommissioning impacts would be temporary and less intensive than those associated with construction since grading and the SCE Whirlwind Substation upgrades and tie-lines would not occur. Additionally, it is also assumed that emissions would be lowered by improvements in engine efficiency technologies. Therefore, project decommissioning would not result in a cumulatively considerable contribution to significant cumulative air quality impacts and would not contribute to long-term air pollution impacts in the MDAB.

Localized Impacts

As previously discussed, several cumulative projects are within six miles of the project site. The County has determined that the project-level significance thresholds for criteria air pollutants also serve as the baseline for "considerable" when determining whether a project would make a cumulatively considerable contribution to regional air quality impacts. In other words, the thresholds account for existing and planned future air basin conditions. Thus, if a project does not exceed the applicable project-level thresholds, the project would not make a cumulatively considerable contribution to significant cumulative impacts in the air basin.

For this analysis, a worst-case scenario is assumed in which the project and cumulative projects are constructed concurrently. Construction activities associated with cumulative projects could contribute to considerable criteria pollutant emissions. Although cumulative projects would also be subject to applicable EKAPCD emissions significance thresholds and mitigation measures to minimize impacts, it is anticipated that there would be times during construction that the significance thresholds could be exceeded. Project construction activities would not generate emissions that exceed EKAPCD's emissions significance thresholds. However, construction activities would exceed the USEPA's SILs for PM_{10}, even with mitigation, and the project site is located in a nonattainment area for PM_{10} CAAQS. Therefore, project construction would make a temporary cumulatively considerable contribution to a significant cumulative air quality impact with respect to PM_{10}. Cumulative impacts during construction would be temporary, significant, and unavoidable.

With respect to operational emissions, the primary source of emissions associated with the project and cumulative projects would primarily be from fuel exhaust associated with routine employee vehicle trips and operation of emergency backup generators. Operational emissions from renewable energy generation and BESS facilities are generally minimal compared to construction activities. As such, the concurrent operation of cumulative projects and the project would not be expected to exceed applicable significance thresholds, and cumulative operational impacts would be less than significant.

Consistency with Existing Air Quality Plans

Consistency with applicable air quality plans is assessed based on a project's contribution to regional growth in employment, population, and vehicle miles traveled. As discussed under Impact 4.3-1, the project would result in temporary construction-related PM_{10} emissions that would remain below EKAPCD's significance thresholds. Accordingly, the project would not impede EKAPCD's ability to progress toward attainment of State PM_{10} standards. Project construction and decommissioning would not make a cumulatively considerable contribution to cumulative impacts.

During operation, the project would not induce substantial population growth, generate substantial vehicle trips, result in criteria pollutant emissions that would conflict with the EKAPCD's Ozone Air Quality Management Plan, or exceed thresholds for any nonattainment pollutant. Therefore, the project's incremental contribution to cumulative air quality impacts during operation and maintenance would not be cumulatively considerable.

Further, the project would store renewable energy for delivery to the electric grid, which could reduce reliance on fossil fuel-based electricity generation within or contributing to the MDAB. To the extent renewable energy storage displaces electricity generated by fossil fuel-powered sources, regional air pollutant emissions could be reduced. In combination with renewable energy generation and energy storage projects in the geographic scope for assessing cumulative impacts, the project would support the State's air quality improvement objectives. Accordingly, the project would not conflict with the goals and objectives of the 2023 Ozone Attainment Plan. Cumulative impacts would be less than significant.

California Air Resources Board Air Basin Emissions

The following tables present MDAB emissions of nonattainment pollutants and their precursors, together with the project's contribution from unmitigated operational emissions. Kern County and MDAB emissions data were obtained from CARB and are based on 2027 emissions projections (CARB 2026). The most recent year of published data for actual emissions is 2017, with subsequent years representing projections from the 2017 results. The projected annual emissions for 2027 were used for comparison because they are the closest available estimates to the project's construction and operational timeframes.

TABLE 4.3-10: EMISSIONS INVENTORY FOR THE MDAB, 2027 PROJECTION – TONS PER DAY

Source	ROG	NO_X	PM_{10}
Total Emissions	208.5	94.0	136.8
Percent Stationary Sources	8%	41%	22%
Percent Area-wide Sources	7%	2%	54%
Percent Mobile Sources	8%	55%	5%
Percent Natural Sources	77%	3%	18%
Total Stationary Source Emissions	16.4	38.1	30.5
Total Area-Wide Source Emissions	14.3	1.7	74.3
Total Mobile Source Emissions	17.1	51.8	6.9
Total Natural Source Emissions	160.7	2.4	25.2

Source: CARB 2026a

TABLE 4.3-11: EMISSIONS INVENTORY FOR THE KERN COUNTY PORTION OF THE MDAB, 2027 PROJECTION – TONS PER DAY

Source	ROG	NO_X	PM_{10}
Total Emissions	116.5	20.2	33.6
Percent Stationary Sources	2%	61%	8%
Percent Area-wide Sources	1%	1%	22%
Percent Mobile Sources	5%	33%	10%
Percent Natural Sources	92%	5%	61%
Total Stationary Source Emissions	1.8	12.2	2.6
Total Area-wide Source Emissions	1.7	0.2	7.4
Total Mobile Source Emissions	5.9	6.7	3.2
Total Natural Source Emissions	107.2	1.0	20.4

Source: CARB 2026a

TABLE 4.3-12: 2027 EMISSIONS PROJECTIONS FOR THE EUISMOD ENERGY STORAGE PROJECT, KERN COUNTY, AND THE MDAB – TONS PER DAY

Source	ROG	NO_X	PM_{10}
Euismod Energy Storage Project (Unmitigated)	0.0001	0.0009	0.0002
Kern County	116.5	20.2	33.6
MDAB	208.5	94.0	136.8
Euismod Energy Storage Project % of Kern County	<0.1%	<0.1%	<0.1%
Euismod Energy Storage Project % of MDAB	<0.1%	<0.1%	<0.1%
Kern County % of MDAB	56%	21%	25%

The project's operational emissions would represent a negligible contribution to County and MDAB emissions projected for 2027. In addition, the project would store renewable energy for delivery into the electric grid, and when considering cumulative renewable energy projects, could reduce reliance on electricity generated by fossil fuel-based sources within or contributing to the MDAB. To the extent that stored renewable energy displaces fossil fuel-based electricity generation, regional air pollutant emissions could be reduced. Accordingly, the project's incremental contribution to the MDAB emissions inventory would not be cumulatively considerable. Therefore, the project's contribution to cumulative air quality impacts would be less than significant.

Cumulative Hazardous Air Pollutants

Combined HAP impacts from the project and cumulative projects would be considered cumulatively significant only if applicable health-based standards or thresholds are exceeded. As previously discussed, the project would not be a substantial source of HAP emissions; therefore, it would not make a cumulatively considerable contribution to significant cumulative HAP impacts.

Cumulative Carbon Monoxide – Mobile Sources

The project would implement **MM 4.15-1** to ensure that construction traffic would not substantially contribute to traffic congestion or combine with existing conditions to create a localized CO "hot spot."

Given the project's minimal traffic generation and limited traffic associated with nearby cumulative projects, the project would not make a cumulatively considerable contribution to a significant cumulative impact. Cumulative impacts would be less than significant.

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. This is consistent with the criterion provided in the County's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports.*

Project construction activities would not generate emissions that exceed the EKAPCD's project emissions significance thresholds. However, despite the implementation of **MM 4.3-1** through **MM 4.3-3**, construction activities would exceed the USEPA SILs for $PM_{10.}$ Therefore, project construction would make a temporary cumulatively considerable contribution to a significant cumulative air quality impact with respect to PM_{10}. Cumulative impacts during construction would be temporary, significant, and unavoidable. Operational emissions from renewable energy generation and battery energy storage system (BESS) facilities are generally minimal compared to construction activities. As such, the concurrent operation of cumulative projects and the project would not be expected to exceed applicable EKAPCD significance thresholds, and cumulative operational air quality impacts would be less than significant.

The timing, number, and scope of cumulative projects that may be occurring at the time of decommissioning are unknown. Nonetheless, it is assumed that decommissioning impacts would be temporary and less intensive than those associated with construction since grading and the SCE Whirlwind Substation upgrades would not occur. Additionally, it is also assumed that emissions would be lowered by improvements in engine efficiency technologies. Therefore, project decommissioning would not result in a cumulatively considerable contribution to significant cumulative air quality impacts and would not contribute to long-term air pollution impacts in the MDAB.

SCE Whirlwind Substation Upgrades

The construction and operation of the SCE Whirlwind Substation upgrades and tie-lines are not anticipated to result in or contribute to a cumulatively considerable net increase of any criteria pollutant for which the projects' region is nonattainment under applicable federal or State ambient air quality standards. SCE would comply with all applicable State and federal laws and regulations during construction and operation, including those regulations that relate to the protection of air quality. Cumulative impacts associated with the Whirlwind Substation upgrades and tie-lines would be less than significant.

Mitigation Measures

Implementation of **MM 4.3-1** through **MM 4.3-8** would be required.

Level of Significance after Mitigation

Despite implementation of the above mitigation, cumulative impacts would be temporary, significant, and unavoidable during construction. Cumulative operation and decommissioning impacts would be less than significant.

Section 4.4
Biological Resources

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Section 4.4
Biological Resources

4.4.1 Introduction

This section of the Draft Environmental Impact Report (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 also describes the criteria used to evaluate the significance of potential impacts on biological resources; the methods used in evaluating these potential impacts; presents an analysis of potential impacts; and describes project-specific mitigation.

The analysis presented in this section of the Draft EIR is based on a multiyear effort to document existing biological resources on-site and in the project vicinity. The analysis presented in this section is based on a review of relevant literature, field reconnaissance surveys, and protocol-level surveys for special-status plants, wildlife, and aquatic resources that are detailed in the following reports:

- *Biological Resources Compendium Report, Euismod Project, Kern County, California.* May 2026. TRC. **Appendix C1.**
- *Rare Plants Survey Report, Euismod Project, Kern County, California.* August 2024. TRC. May 2025. Aardvark Biological Services, LLC. **Appendix C2**.
- *Habitat Assessment and Burrow Survey Report for BUOW, DKF, and AMBA, Euismod Project, Kern County, California*. January 2025. Rincon Consultants, Inc. **Appendix C3.**
- *Protocol Western Burrowing Owl Habitat Assessment and Survey Report, Euismod Project, Kern County, California*. August 2025. Aardvark Biological Services, LLC. **Appendix C4.**
- *Protocol Desert Tortoise Survey Report, Euismod Project, Kern County, California*. January 2025. Rincon Consultants, Inc. July 2025. Aardvark Biological Services, LLC. **Appendix C5.**
- *Swainson's Hawk Nesting Habitat Assessment Report, Euismod Project, Kern County, California*. January 2025. Rincon Consultants, Inc. **Appendix C6.**
- *Protocol Swainson's Hawk Survey Report, Euismod Project, Kern County, California*. July 2025. Aardvark Biological Services, LLC. **Appendix C7.**
- *Western Joshua Tree Census, Kern County, California*. November 2024. Phoenix Biological Consulting, LLC. February 2026. Jennings Environmental, LLC. **Appendix C8.**
- *Jurisdictional Waters Delineation Report, Euismod Project, Kern County, California*. February 2026. Jennings Environmental, LLC. **Appendix C9.**
- *Preliminary Summary of the 2026 Swainson's Hawk and Crotch's Bumble Bee Survey Report.* June 2026. TRC. **Appendix C10**.

- *Swainson's Hawk Survey Report, Euismod Project, Kern County, California*. July 2026. Aardvark Biological Services, LLC. **Appendix C11**.
- *Crotch's Bumble Bee Survey Report, Euismod Project, Kern County, California.* July 2026. Aardvark Biological Services, LLC. **Appendix C12**.

Prior to conducting field surveys, the literature review for the biological resources assessment included reviewing information from online maps, relevant databases, aerial photographs, agency websites, and management plans, including the U.S. Geological Survey (USGS) 7.5-minute topographic maps; the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB); the United States Fish and Wildlife Service's (USFWS) online Information for Planning and Consultation (IPaC) system; the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Plants of California, Calflora; CDFW's Biogeographic and Information Observation System (BIOS); USFWS' Critical Habitat online mapper; Natural Resources Conservation Service Web Soil Survey; and USFWS' National Wetlands Inventory database and Wetlands Mapper.

The purpose of the literature reviews was to provide information on the project's location; land cover and land use; topography; soils; plant communities and plant cover; rare plant and wildlife species; hydrology, aquatic features, and jurisdictional areas; critical habitats; wildlife movement corridors; and other important biological resources and issues. The literature reviews were also used to make preliminary assessments of the potential for the occurrence of sensitive species in preparation for field observations.

Biologists conducted the following types of biological surveys for the project: biological resources assessment, rare plant surveys, protocol-level surveys for Mojave Desert tortoise (*Gopherus agassizii*) surveys, habitat suitability assessment for burrowing owl (*Athene cunicularia*), desert kit fox (*Vulpes macrotis arsipus*), and American badger (*Taxidea taxus*); nesting habitat assessment for Swainson's hawk (*Buteo swainsoni*) surveys; protocol western burrowing owl habitat assessment and survey, protocol Crotch's bumble bee (*Bombus crotchii*) survey, and jurisdictional delineation surveys. In addition, a western Joshua Tree (WJT; *Yucca brevifolia*) census was prepared for the project.

Multiple surveys were required to capture all areas to be used for the project. Therefore, while surveys covered the entire project site and tie-line corridors, individual field efforts and survey reports may reflect slightly different survey areas depending on the survey date and type. Each survey area is described in detail within each respective survey report prepared for this project.

4.4.2 Environmental Setting

Regional Setting

The project is situated in the western portion of the Mojave Desert, in unincorporated Kern County, California. The project is located at the northern edge of the Antelope Valley, south of the Tehachapi Mountains, approximately 8 miles west of the unincorporated area of Rosamond and approximately 6 miles north of State Route (SR)-138.

The project is in a low-population-density area and is located near solar and wind energy generation facilities, communications infrastructure, and agriculture. Specific developments within the project vicinity include the Southern California Edison (SCE) Whirlwind Substation, Pacific Wind Energy Project, Kingbird Solar Photovoltaic Project, Antelope Valley Solar Project, Keyhole Wind Energy Project, and the PdV Wind Project.

Climate

The climate of the Mojave Desert is characterized by hot summers and cool winters with low year-round rainfall. According to U.S. Climate Data (USCD 2025), July and August are the hottest months, with an average high temperature of 96 degrees Fahrenheit (°F), and December and January are the coldest months, with an average low temperature of 33 °F. The average annual precipitation for Mojave, California, is 6.67 inches, with most of the precipitation occurring between November and April, originating from large-scale Pacific storm systems, while the remainder is generated primarily by high-intensity monsoonal thunderstorms during the summer months.

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 (less than 1 percent) in extremely arid areas such as the Mojave Desert and the Great Basin (USACE 2008).

The project is in the South Lahontan Hydrologic Region, which represents about 17 percent (26,732 square miles) of the land area in California. The region includes Inyo County and portions of Mono, San Bernardino, Kern, and Los Angeles counties (DWR 2015). 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 underground. Along with the arid climate, this accounts for the presence of many dry lakebeds or playas in the region (LRWB 2017).

Vegetation

Vegetation in the Mojave Desert region is influenced by arid climate conditions, topography, desert soils, and past land uses. Vegetation in the region predominantly exhibits morphological adaptations to extreme dryness, such as waxy or resinous leaf surfaces, drought-deciduous or succulent forms, woolly leaf hairs, and deep taproot systems. The vegetation structure typically features short, widely spaced shrubs and tree-like shrubs, resulting from competition for soil water resources. Portions of the Mojave Desert and Antelope Valley that were at one time cleared for agricultural or other development currently consist of moderate to highly degraded conditions and often contain a high proportion of associated invasive and non-native species (Thomas et al. 2004).

The predominant natural plant community within the project vicinity is the creosote bush series on hills, pediments, and fans. The Joshua tree series is common on pediments and fans, while the California juniper series predominates above about 3,000 feet above mean sea level near the San Andreas Fault. Mixed saltbush species are prevalent on basin floors; iodine bush and saltgrass series occur on wet basin-fill and lacustrine deposits; and greasewood series is found in riparian zones and around saltmarshes (Miles and Goudey 1997).

Wildlife

The Mojave Desert supports a variety of reptile, bird, and mammal species. Reptile species commonly occurring in the desert portion of Kern County include the common side-blotched lizard (*Uta stansburiana*), western whiptail (*Aspidoscelis tigris*), desert spiny lizard (*Sceloporus magister*), gophersnake (*Pituophis catenifer*), and Mojave rattlesnake (*Crotalus scutulatus*).

Bird species common to the region include common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), house finch (*Haemorhous mexicanus*), loggerhead shrike (*Lanius ludovicianus*), and red-tailed hawk (*Buteo jamaicensis*).

Mammal species typical of the area include white-tailed antelope ground squirrel (*Ammospermophilus leucurus*), coyote (*Canis latrans*), black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Otospermophilus beecheyi*), and bat species including California myotis (*Myotis californicus*), western small-footed myotis (*Myotis ciliolabrum*), and western pipistrelle (*Pipistrellus hesperus*).

Sensitive Natural Communities

Sensitive natural communities are designated by CDFW, or occasionally in local policies and regulations, and are generally considered to have important functions or values for wildlife and/or are recognized as declining in extent and/or distribution. These communities are considered threatened enough to warrant some level of protection.

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 pursuant to the California Environmental Quality Act (CEQA). In addition, vegetation communities listed by CDFW as having the highest inventory priorities are considered sensitive. For example, federal, State, and most local agencies consider wetlands and riparian habitats as sensitive communities. CDFW tracks communities it believes to be of conservation concern through the CNDDB, and plant alliances or associations with a state rank of S1 through S3 are considered to be sensitive communities by the State.

Wildlife Movement Corridors

Wildlife movement corridors, also referred to as dispersal corridors or landscape linkages, are generally defined as linear features along which animals can travel from one habitat or resource area to another. Linkages and corridors facilitate regional animal movement and can consist of features such as waterways, riparian corridors, mountain passes, contiguous habitat, and other physical features. Open landscapes void of impediments, such as paved roads, structures, and development, allow wildlife to move freely. In denser landscapes where cover is harder for larger animals to penetrate, wildlife will often utilize human-made movement corridors, such as scarcely traveled dirt roads and trails, as well as natural paths, such as washes and small drainages. Wildlife movement corridors can also include stopover habitat for migrating birds or small-scale corridors, such as riparian zones that provide connectivity and cover to support movement at a local scale.

The Essential Connectivity Map on the CDFW BIOS Habitat Connectivity Viewer was reviewed to determine whether the project site is located within or near a CDFW-designated Natural Landscape Block (NLB) or Essential Connectivity Area (ECA). NLBs are blocks of contiguous natural habitat connectivity in California. ECAs are large areas that are important to maintaining ecological integrity and that connect multiple NLBs. The nearest designated NLB and ECA are approximately 6 miles northwest of the project site, located in the Tehachapi Mountains (CDFW 2026a). Existing terrestrial wildlife connectivity barriers in the region that may influence wildlife movement include SR-14 and SR-138 (CDFW 2026b).

The project site is located within the Pacific Flyway, which is a significant north-south avian migration route that stretches from Alaska to Patagonia. Millions of birds annually migrate along the Pacific Flyway and stop along the way at sites for nesting, wintering, resting, and foraging. Locally, the project is within the approximately 687,308-acre Antelope Valley—Edwards Air Force Base (AFB) Important Bird Area (IBA), which supports a variety of bird species, including the Le Conte's thrasher (*toxostoma lecontei*), loggerhead shrike, and Swainson's hawk (Audubon 2026).

Local Setting

The project is located at the western edge of the Antelope Valley in the southeastern corner of the desert region in unincorporated Kern County. The project site and surrounding land are located on the lower end of the bajada, south of the Tehachapi Mountain range, at elevations between approximately 2,764 and 2,827 feet above mean sea level. The site is relatively flat, with slopes of less than 2 percent that gradually slope downward from the northwest towards the southeast, though there are locations where the slopes reach roughly 5 percent. Vegetation within the project area is characteristic of the Mojave Desert and is predominantly composed of mature creosote bush scrub with scattered Joshua trees, commonly 8 to 10 feet tall. The vegetation on-site has experienced high levels of anthropogenic disturbance, such as historic grazing impacts, off-road vehicle use, and unpaved roads supporting local utility facilities.

Surface Hydrology and Jurisdictional Waters

The project, including the SCE Whirlwind Substation and tie-line corridors, is located in the South Lahontan Hydrologic Region (Region), under the jurisdiction of the Lahontan Regional Water Quality Control Board (RWQCB), within the Antelope Hydrologic Unit and the Willow Springs Hydrologic Area. The Region includes all of Inyo County and portions of Mono, San Bernardino, Kern, and Los Angeles counties. The Region is generally bounded to the north by the drainage between Mono Lake and the 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 (DWR 2013).

The U.S. Geological Survey's National Hydrographic Database identifies several streams on the project site and in the immediate vicinity (USEPA 2022). The jurisdictional delineation prepared for the project also identified seven unnamed ephemeral drainage features, of which five are within the project site, and two are within the tie-line corridors. All drainage features generally flow from the west and north of the site to the southeast corner. On-site drainage only conveys surface flow in direct response to precipitation and does not support riparian vegetation.

Biological Study Area

Biological resources surveys were conducted for the project between 2023 and 2026. The Biological Study Area (BSA) is the area that was analyzed for biological resources, which consists of the project site plus a 500-foot buffer, and the tie-lines extending to the SCE Whirlwind Substation with a 50-foot buffer. Buffers are used to provide context for the resources identified within the area, address potential indirect effects, and allow refinement to the project while maintaining an adequate representation of the biological resources present. The BSA was generally used for all biological surveys, with the exception of the Swainson's Hawk protocol survey, which used the project site plus a 5-mile buffer (Swainson's Hawk Survey Area).

Topography and Soils

Soils in the project site and tie-line corridors consist predominantly of sandy loams that drain well. Most of the site exhibits Cajon loamy sand and Hesperia fine sandy loam, with a smaller percentage consisting of Rosamond fine sandy loam. Work at the SCE Whirlwind Substation would be conducted in engineered soils within the existing substation development footprint.

Vegetation Communities

The project footprint and tie-line corridors are dominated by mature creosote bush scrub, characterized by creosote (*Larrea tridentata*), typically ranging from 8 to 10 feet in height. Two smaller patches of cheesebush-sweetbush scrub (*Ambrosia salsola - Bebbia juncea*) are also present within the project footprint. A sparse herbaceous layer of seasonal annuals and perennial grasses occurs throughout both shrub communities. Vegetation is generally open, with shrubs spaced approximately 4 feet to 15 feet apart.

Vegetation observed in the two communities was similar. The creosote bush scrub community (*Larrea tridentata* Shrubland Alliance) is dominated by creosote, commonly 8 to 10 feet tall. Other shrubs observed within the BSA predominantly included: rubber rabbitbrush (*Ericameria nauseosa*), winterfat (*Krascheninnikovia lanata*), and white bursage (*Ambrosia dumosa*). Native herbs predominantly consisted of common goldfields (*Lasthenia gracilis*), doveweed (*Croton setiger*), sandblossoms (*Linanthus parryae*), whitemargin sandmat (*Euphorbia albomarginata*), and anglestem buckwheat (*Eriogonum angulosum*). Non-native herbs and grasses were also present, and predominantly included tumble mustard (*Sisymbrium altissimum*), redstem filaree (*Erodium cicutarium*), cheat grass (*Bromus tectorum*), and red brome (*Bromus madritensis* ssp. *rubens*). The cheesebush-sweetbush community (*Ambrosia salsola - Bebbia juncea* Shrubland Alliance) is dominated by cheesebush (*Ambrosia salsola*). The herbaceous layer species composition was similar to that of the creosote bush scrub, with common goldfields, cheatgrass, red brome, and tumble mustard being the most common. No other vegetation communities would be impacted by the project. The tie-line interconnections at the SCE Whirlwind Substation would occur within the developed substation footprint, where terrain consists of engineered soils and gravel surfacing maintained to control vegetation.

Table 4.4-1, *Mapped Vegetation Communities and Land Cover Types within the Project Footprint and Tie-Line Corridor*, lists vegetation and land cover categories with approximate acreages that were mapped, describes the corresponding alliance plant community name, and states whether each community is considered sensitive or not by CDFW.

TABLE 4.4-1: MAPPED VEGETATION COMMUNITIES AND LAND COVER TYPES WITHIN THE PROJECT FOOTPRINT AND TIE-LINE CORRIDOR

Vegetation Community within Project Footprint and Tie-Line Corridor	Alliance Plant Community	Sensitive Community	Approximate Acreage[a]	Acres in Disturbance Footprint
Creosote bush scrub	*Larrea tridentata S*hrubland Alliance	No	**118**	**103**
Cheesebush-sweetbush scrub	*Ambrosia salsola—Bebbia juncea* woodland alliance	No	**8**	**7**

Note:

[a] Acreages are rounded to the nearest whole number.

Wildlife Species

Wildlife species observed or detected in the BSA are consistent with the common species known to occur in the Antelope Valley and Mojave Desert. Below is a summary of the species-specific protocol surveys conducted for the project.

- During April 2023, an initial project biological resources assessment was conducted, covering a 34-acre portion of the project site, the SCE lands between the project site and the Whirlwind Substation, and a 500-foot buffer. The study inventoried animal species observed and surveyed the site for protected habitats, wildlife species, or their sign. The methods and results of the survey are included as Appendix A of the *Biological Resources Compendium Report* (**Appendix C1**).
- During February 2024, a biological resource assessment was conducted, covering approximately 40 acres in the eastern portion of the project site, SCE lands between the project site and the Whirlwind Substation, and a 500-foot buffer. The study inventoried animal species observed and surveyed the site for protected habitats, wildlife species, or their sign. The methods and results of the survey are included as Appendix A in the *Biological Resources Compendium Report* (**Appendix C1**).
- Between April and May 2024, habitat assessments, in conjunction with burrow surveys for burrowing owl (BUOW), desert kit fox (DKF), and American badger (AMBA), were conducted, covering the approximately 120-acre project site and a 500-foot buffer. The methods and results of the survey are included in the *Habitat Assessment and Burrow Survey for BUOW, DKF, and AMBA* (**Appendix C3**).
- Between April and June 2025, a western burrowing owl habitat assessment and associated surveys were conducted, covering the approximately 120-acre project site, the tie-line corridors, and a 500-foot buffer. The methods and results of the survey are included in the *Protocol Western Burrowing Owl Habitat Assessment and Survey Report* (**Appendix C4**).
- Between April and May 2024, biologists conducted focused desert tortoise surveys, covering the approximately 120-acre project site and a 500-foot buffer. The methods and results of the survey are included in the *Protocol Desert Tortoise Survey Report* (**Appendix C5**).
- Between April and May 2025, biologists conducted focused desert tortoise surveys, covering the project site, the electric tie-line routes, and a 100-foot buffer. The methods and results of the survey are included in the *Protocol Desert Tortoise Survey Report* (**Appendix C5**).
- In April 2024, nesting habitat surveys for Swainson's Hawk were conducted, covering lands within one mile of the project site. The methods and results of the survey are included in the *Swainson's Hawk Nesting Habitat Assessment Report* (**Appendix C6**).
- Between March and April 2025, biologists conducted protocol surveys for Swainson's Hawk, covering the project site and lands within 5 miles. The methods and results of the survey are included in the *Protocol Swainson's Hawk Survey Report* (**Appendix C7**).

- Between March and July 2026, biologists conducted protocol surveys for Swainson's Hawk, covering the project site and lands within 5 miles. A preliminary summary of the survey results is included in the *Preliminary Summary of the 2026 Swainson's Hawk and Crotch's Bumble Bee Surveys* (**Appendix C10**), and the final methods and results of the surveys are included in the *Swainson's Hawk Survey Report* (**Appendix C11**).
- Between April and June 2026, biologists conducted focused surveys for Crotch's bumblebee, covering the project site, the electric tie-line routes, and a 50-foot buffer. A preliminary summary of the survey results is included in the *Preliminary Summary of the 2026 Swainson's Hawk and Crotch's Bumble Bee Surveys (***Appendix C10**), and the final survey results are included in the *Crotch's Bumble Bee Survey Report* (**Appendix C12**).

A total of 33 wildlife species were observed or otherwise detected in the BSA during the field surveys, including 9 invertebrate species, 4 reptile species, 14 bird species, and 6 mammal species. The BSA does not support fish, and amphibians were not observed or detected during the surveys. A full list of wildlife species observed is included in Appendix B of the *Biological Resources Compendium Report* (**Appendix C1**).

Most wildlife observed or detected during the survey were native birds and small mammals. Common bird species observed included common raven, house finch, red-tailed hawk, lesser nighthawk (*Chordeiles acutipennis*), mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), white-crowned sparrow (*Zonotrichia leucophrys*), Brewer's sparrow (*Spizella breweri*), European starling (non-native species; *Sturnus vulgaris*), blue-gray gnatcatcher (*Polioptila caerula*), cactus wren (*Campylorhynchus brunneicapilus*), house wren (*Troglodytes aedon*), and ash-throated flycatcher (*Myarchus cinerascens*). Mammal species that were identified on the site included domestic sheep (*Ovis aries*), coyote, Merriam's kangaroo rat (dead; *Dipodomys merriami*), black-tailed jackrabbit, and white-tailed antelope ground squirrel. Coyote scat, track, and voice were observed in the surrounding area.

Various invertebrate and reptile species were also observed during field surveys. Common invertebrate species observed in the BSA included California broad-necked darkling beetle (*Coelocnemis dillaticollis*), inflated blister beetle (*Cysteodemus amatus*), master blister beetle (*Lytta magi*ster), painted Lady (*Vanessa cardui*), honey bee (*Apis mellifera*), velvet ant (*Dasymutilla albiceris*), California harvester ant (*Pogonomymex californicus*), and yellowjacket wasp (*Vespula* sp.). Common reptile species observed included long-nosed leopard lizard (*Gambelia wislizenii*), side blotch lizard, Western whiptail, and Mojave rattlesnake. The wildlife observed during the field surveys is representative of the fauna in the surrounding area.

Special-Status Species

Special-status species are defined as those plants and wildlife that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, State, or local agencies as being under threat from development pressures as well as natural causes. Some of these species receive specific protection that is defined by the federal or state endangered species acts. Other species have been designated as special status on the basis of adopted policies and expertise of State resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and/or special districts to meet local conservation objectives.

Special-status plant species 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 CEQA Guidelines Section 15380;
- All of the plants constituting California Rare Plant Rank 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 California Fish and Game Code (CFGC), and are eligible for State listing; and
- Species covered under an adopted National Community Conservation Planning Act/Habitat Conservation Plan (HCP).

Special-status wildlife species include the following:

- Species that are designated as rare, threatened, or endangered by CDFW or USFWS and are protected under either CESA (CFGC Section 2050 et seq.) or ESA (16 United States Code [U.S.C.] 1531 et seq.);
- Species that are candidate species being considered or proposed for listing under ESA or CESA;
- California "Species of Special Concern," as designated by CDFW, and Birds of Conservation Concern, as designated by USFWS;
- Wildlife identified as a "fully protected" species by CDFW (CFGC Sections 3511, 4700, and 5050);
- Wildlife species protected as "fur-bearing mammals" (CFGC Section 4000 et seq.);
- Any local, State, or federal protected plant and wildlife species that are protected in the Kern County General Plan (Kern County 2009); and
- Avian species protected by the Migratory Bird Treaty Act (MBTA) and CFGC (Sections 3500–3516).

It should be noted that most avian species are afforded certain protections by the MBTA and CFGC (Sections 3USGS500–3516); however, a majority of these, including some raptors, are common species and are not considered special status on that basis alone.

A complete list of rare plants and special-status wildlife species that have the potential to occur on the BSA is provided in **Table 4.4-2**, *Rare Plants with the Potential to Occur Within the BSA*, and **Table 4.4-3**, *Special-Status Wildlife with the Potential to Occur Within the BSA*. Each species is discussed in the subsections below. The "Potential to Occur" categories are defined as follows:

- **Low:** A species has a low potential to occur if one of the following criteria is met:
  - The BSA or immediate region does not support suitable habitat, and the known range of the species is outside of the BSA or immediate region, or
  - The BSA and immediate region support suitable habitat for the species and are located within the species' known distribution and elevational range, but protocol-level surveys were completed, and the species was not observed.

- **Moderate:** The BSA and immediate region support suitable habitat for the species and are located within this species' known distribution and elevational range.
- **High:** The BSA and immediate region contain habitat for the species, and it is known to occur in the area.
- **Present:** Species observed on or near the BSA during surveys or known to occur based on other site visits for the project.

Special-Status Plant Species

The CDFW CNDDB, USFWS IPaC system, and the CNPS Electronic Inventory of Rare and Endangered Plants of California databases were queried in May 2025 to compile a list of potential rare plant species that may occur in the project region. Species identified in the database review were then assessed for their potential to occur within the BSA by comparing their general range (if known) and their elevational range where the plant is known to occur, and comparing those with the BSA's location and elevational range. Biologists then evaluated whether the BSA contains suitable habitats to support each species. For those species that have a potential to occur, biologists determined whether there is a high, moderate, or low potential for those species to occur within the BSA.

A total of eight rare plant species identified in the database reviews have the potential to occur in the BSA. The remaining species identified in the database review have little to no potential to occur within the BSA because the site is located outside the species' known distribution, elevational range, and/or because the BSA lacks suitable habitats to support these plants. Known occurrences of sensitive plant species were visited before conducting surveys of these plant populations.

Only one special-status plant species, the WJT, a candidate for listing under the CESA, was observed within the BSA. WJT is also protected under the Western Joshua Tree Conservation Act (WJTCA) 2023 and the California Desert Native Plant Act (CDNPA). In addition to this plant species observed on-site, habitat conditions and geographic location create a potential for additional rare plant species to occur within the BSA, though these species were not observed during protocol-level surveys. **Table 4.4-2**, *Rare Plants with the Potential to Occur Within the BSA*, includes WJT and species that have the potential to occur within the BSA.

TABLE 4.4-2: RARE PLANTS WITH THE POTENTIAL TO OCCUR WITHIN THE BSA

Scientific Name	Common Name	Protection Status (Federal/State/CRPR)	Observed during Surveys	Potential to Occur within the BSA
Gilia interior	Inland gilia	- / - / 4.3	No	Low
Yucca brevifolia	Western Joshua tree	- / SC / -	Yes	Present
Camissonia kernensis ssp. *Kernensis*	Kern County evening-primrose	- / - / 4.3	No	Low
Castilleja plagiotoma	Mojave paintbrush	- / - / 4.3	No	Low
Muilla coronata	Crowned muilla	- / - / 4.2	No	Low
Nemacladus secundiflorusvar. Robbinsii	Robbins' nemacladus	- / - / 1B.2	No	Low

Scientific Name	Common Name	Protection Status (Federal/State/CRPR)	Observed during Surveys	Potential to Occur within the BSA
Trichostema ovatum	San Joaquin bluecurls	- / - / 4.2	No	Moderate
Canbya candida	White pygmy-poppy	- / - / 4.2	No	Low

Notes:

Federal Status and/or Protection

- **FE = federally listed as endangered:** any species that is in danger of extinction throughout all or a significant portion of its range.
- **FT = federally listed as threatened:** any species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

State Status and/or Protection

- **SE = state-listed as endangered**: "endangered species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (CFGC Section 2062).
- **SC = state candidate for listing:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for addition to the list of endangered species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (CFGC Section 2068).

California Rare Plant Ranks Designations

- **CRPR: 1B = California Rare Plant Rank 1B—plants rare, threatened, or endangered in California and elsewhere:** plants with a CRPR of 1B are rare throughout their range with most of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. All the plants constituting CRPR 1B meet the definitions of Section 2062 and Section 2067 CESA of CFGC and are eligible for state listing.
- **CRPR: 4 = California Rare Plant Rank 4—plants of limited distribution—a watch list**: the plants in this category are of limited distribution or infrequent throughout a broader area in California. While the CNPS and CDFW cannot call these plants "rare" from a statewide perspective, they are uncommon enough that their status should be monitored regularly. Should the degree of endangerment or rarity of a CRPR 4 plant change, CNPS and CDFW will transfer it to a more appropriate rank. Some of the plants constituting CRPR 4 meet the definitions of Section 2062 and Section 2067 (CESA) of the CFGC, and few, if any, are eligible for state listing.

CRPR Threat Rank Designations

- **x.2** = moderately threatened in California (20% to 80% occurrences threatened / moderate degree and immediacy of threat).
- **x.3** = not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

Key: - = no status; not applicable

Although not considered a rare or special plant species, two silver cholla (*Cylindropuntia echinocarpa*) were observed within the project vicinity during the 2025 rare plant survey. One was documented within the project site, while the other was documented adjacent to the project site. The silver cholla is not classified as a special-status species and was therefore not listed in **Table 4.4-2**, *Rare Plants with the Potential to Occur Within the BSA*. However, similar to the WJT, silver cholla is protected under the CDNPA. Plants protected under the CDNPA require landowner notification to CDFW, permits, and the payment of fees before removal.

Rare Plant Species Observed During Surveys

Western Joshua Tree: WJT is a state candidate for listing under CESA and is a species that is protected by the WJTCA and CDNPA. This plant is a perennial tree-like succulent that grows on desert flats, gentle slopes, mesas, and bajadas on a variety of substrates, but typically igneous, that are silty, loamy, or sandy, within many different plant communities. This species is pollinated by the yucca moth (*Tegeticula synthetica*), is typically observed growing at an elevation of 1,312 to 7,546 feet (400 to 2,300 meters), and blooms in March through May.

A combination of extensive field surveys for WJT in compliance with CDFW protocol and desktop analyses was conducted for the project site and tie-line corridors (both with a 50-foot buffer). During the field survey, data were collected on 418 observed WJTs. WJTs in the moderate height class (between 1 and 5 meters) made up the largest portion of those on-site (248 out of 418), followed by the small height class (less than 1 meter; 137 out of 418), and then the large height class (greater than 5 meters; 33 out of 418). Most trees were alive (377 out of 418), unbranched or immature (279 out of 418), and displayed no current flowering or indications of recent fruiting (404 out of 418). The overall density of WJTs found on-site is approximately 3 trees per acre. No WJTs were observed during field surveys of the tie-line corridors. Under the WJTCA, a permit and fee would be required, as well as steps to avoid, minimize, and relocate trees where feasible.

Rare Plant Species Not Observed During Surveys

Inland gilia (*Gilia interior*): Inland gilia is classified as a California Rare Plant Rank (CRPR) 4.3 plant. This annual herb species prefers rocky slopes, open woodland, and scrub habitats. It occurs in cismontane woodland, Joshua tree woodland, and lower montane coniferous forest habitats. This species is typically observed growing at an elevation of 2,297 to 5,577 feet (700 to 1,700 meters). The blooming period is typically between March and May. While there is potential habitat present in the vicinity of the project site, the species has a low potential to occur because it typically prefers higher elevations and was not observed during protocol-level surveys.

Kern County evening-primrose (*Camissonia kernensis* ssp. *kernensis*): Kern County evening-primrose is classified as a CRPR 4.3 species. It is an annual herb that typically occurs on sandy slopes and flats within Joshua tree woodland and California juniper woodland communities at elevations of approximately 2,592 to 6,988 feet (790 to 2,130 meters). The species' blooming period is between March and May. While the species has been documented in the vicinity of Rosamond, it has a low potential to occur in the BSA. Site soils consist primarily of loamy sand or sandy loam, rather than the sand or gravel substrates that the species prefers. Although several closely related species were observed during 2024 rare plant surveys, Kern County evening-primrose was not detected during protocol-level surveys. Accordingly, this species has a low potential to occur within the BSA.

Mojave paintbrush (*Castilleja plagiotoma*): The Mojave paintbrush is classified as a CRPR 4.3 species. It is a perennial herb (hemiparasitic) that prefers dry sagebrush scrub and pinyon woodland communities, and may also be found in the Great Basin scrub, Joshua tree woodland, or lower montane coniferous forest at elevations of approximately 984 to 8,202 feet (300 to 2,500 meters). The species blooms from April to June. Although suitable habitat is present within the BSA and the species has been documented in the surrounding vicinity, Mojave paintbrush was not observed during field surveys. Given its relatively large size (30 to 60 centimeters) and conspicuous yellow flower, it is unlikely to have been overlooked. Accordingly, the species has a low potential to occur within the BSA.

Crowned muilla (*Muilla coronata*): The crowned muilla is classified as a CRPR 4.2 species. It is a perennial herb in the Brodiaea family that occurs in creosote bush scrub and Joshua tree woodland, and may also be found in Mojavean desert scrub, pinyon woodland, and juniper woodland communities at elevations of approximately 2,198 to 6,430 feet (670 to 1,960 meters). The species blooms from March to April. While suitable habitat is present within the BSA and the species has been documented near Rosamond and Lancaster, crowned muilla was not observed during protocol-level surveys conducted in 2024 or during early May 2025 surveys conducted during the flowering and early fruiting period. Accordingly, crowned muilla has a low potential to occur in the BSA.

Robbins' nemacladus (*Nemacladus secundiflorus* var. *robbinsii*): Robbins' nemacladus is classified as a CRPR 1B.2 species. This annual herb typically prefers dry, gravelly slopes within chaparral, valley, and foothill grassland habitats at elevations of approximately 1,181 to 5,610 feet (360 to 1,710 meters). The species blooms from April to June. While suitable substrates are present on-site, the site lacks suitable vegetation, and the species was not observed during protocol-level surveys. Accordingly, the Robbins' nemacladus has a low potential to occur within the BSA.

San Joaquin bluecurls (*Trichostema ovatum*): San Joaquin bluecurls is classified as a CRPR 4.2 species. It is not typically associated with the Mojave Desert geographic province, but may occur in grassland and disturbed habitats at elevations generally below 984 feet (300 meters). The species blooms from July to October. San Joaquin bluecurls is known from a different geographic region, but is documented along a roadway, west of Rosamond, and likely represents an incidental "hitchhiker" occurrence of a seed that germinated. The timing of the 2024 and 2025 rare plant surveys did not coincide with the species' flowering period, and individuals in a vegetative condition could have been overlooked, although the species is relatively distinctive. San Joaquin bluecurls was not observed during the protocol-level surveys. Although the species has limited habitat suitability and was absent during surveys, this species has a moderate potential to occur within the BSA due to the known occurrence within the area.

White pygmy-poppy (*Canbya candida*): White pygmy-poppy is classified as a CRPR 4.2 species. It is an annual herb typically occurring in undisturbed sandy or gravelly substrates within WJT woodland, creosote scrub communities, Mojavean desert scrub, pinyon woodland, and juniper woodland communities at elevations of approximately 1,969 to 4,790 feet (600 to 1,460 meters). The species blooms from March through May. The species is quite small in size, from 1 to 3 centimeters, and blooms with a white flower that would catch a botanist's attention. If in a dried-up or vegetative condition, it could be difficult to observe. The early May 2025 survey was in the correct timeframe to observe this species in flower, although it was a dry year with low expected germination rates. However, 2024 generally had good moisture in the west Mojave Desert, and white pygmy-poppy was not observed. Site soils consist primarily of loamy sand or sandy loam rather than the sand or gravel substrates preferred by this species. Therefore, this species has a low potential to occur in the BSA.

Special-Status Wildlife Species

The CDFW, CNDDB and USFWS IPaC databases were queried to compile a list of potential special-status wildlife species that may occur in the project region. Species identified in the database reviews were then assessed for their potential to occur within the BSA by comparing their general distribution (if known) with the project's location. Biologists then evaluated whether the BSA contains suitable habitats to support each species. For those species that have the potential to occur, biologists determined whether there is a high, moderate, or low potential. As previously discussed, the "Potential to Occur" categories from wildlife species are the same as those for plant species.

A total of 23 special-status wildlife species were identified in the database review and were determined to have the potential to occur on-site. Of the 23 species, only two sensitive wildlife species, loggerhead shrike and Crotch's bumble bee, were observed within the BSA during field surveys conducted for the project. In addition, Swainson's Hawk (*Buteo swainsona*) was observed within the Swainson's Hawk Survey Area. The remaining 20 special-status species in the database searches were not identified or detected in the BSA. All 23 species with the potential to occur are listed in **Table 4.4-3**, *Special-Status Wildlife with the Potential to Occur Within the BSA,* and are discussed further below.

TABLE 4.4-3: SPECIAL-STATUS WILDLIFE WITH THE POTENTIAL TO OCCUR WITHIN THE BSA

Scientific Name	Common Name	Protection Status (Federal / State)	Observed / Detected during Surveys	Potential to Occur within the BSA
Invertebrates				
Bombus crotchii	Crotch's bumble bee	- / SC	Yes	Present
Danaus plexippus pop.1	Monarch—California overwintering population	FC / -	No	Low (forage)
Reptiles				
Gopherus agassizii	Desert tortoise	FT / SE	No	Low
Charina umbratical	Southern rubber boa	- / ST	No	Low
Anniella pulchra	Northern California legless lizard	- / SSC	No	High
Birds				
Lanius ludovicianus	Loggerhead shrike	- / SSC	Yes	Present
Buteo swainsoni	Swainson's hawk	- / ST	Yes (within Swainson's Hawk Survey Area)	Present
Athene cunicularia	Western burrowing owl	- / SSC, SC	Sign observed	Moderate
Aquila chrysaetos	Golden eagle	- / FP	No	Moderate (forage/transit); low (nesting)
Gymnogyps californianus	California condor	FE / SE, FP	No	Moderate (forage/transit); low (nesting)
Buteo regalis	Ferruginous hawk	- / WL	No	High (seasonal forage/roost); low (nesting)
Falco columbarius	Merlin	- / WL	No	Moderate (seasonal forage/transit); low (nest)
Asio otus	Long-eared owl	- / SSC	No	Low (forage). No nesting habitat
Falco mexicanus	Prairie falcon	- / WL	No	High (forage/transit); low (nesting)
Charadrius montanus	Mountain plover	- / SSC	No	Low (forage/transit)
Calypte costae	Costa's hummingbird	BCC / S4	No	High (nesting)
Agelaius tricolor	Tricolored blackbird	- / ST, SSC	No	Low
Toxostoma lecontei	Le Conte's thrasher	- / SC	No	High (nesting)

Scientific Name	Common Name	Protection Status (Federal / State)	Observed / Detected during Surveys	Potential to Occur within the BSA
Mammals				
Perognathus alticola inexpectatus	Tehachapi pocket mouse	- / SSC	Sign observed	High
Perognathus inornatus	San Joaquin pocket mouse	- / SSC	No	Low
Onychomys torridus tularensis	Tulare grasshopper mouse	- / SSC	No	High
Taxidea taxus	American badger	- / SSC	No	Low
Vulpes macrotis arsipus	Desert kit fox	- / 14 CCR 460	No	Low

Notes:

Federal Status and/or Protection

- **FT = federally listed as threatened:** any species of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future.
- **FE = federally listed as endangered:** any species which is in danger of extinction throughout all or a significant portion of its range.
- **FC = federally critically endangered:** a subset of endangered species that are designated as having critical habitats that are essential for their conservation.
- **BCC = Bird of Conservation Concern:** species designated by USFWS that require proactive conservation attention to prevent future declines.

State Status and/or Protection

- **ST = state-listed as threatened:** "threatened species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts (CFGC Section 2067).
- **SE = state-listed as endangered**: "endangered species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (CFGC Section 2062).
- **SSC = species of special concern:** a species of special concern is a species, subspecies, or distinct population of an animal (fish, amphibian, reptile, bird and mammal) native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria: is extirpated from the state or, in the case of birds, in its primary seasonal or breeding role; is listed as federally-, but not state-, threatened or endangered; meets the state definition of threatened or endangered, but has not formally been listed; is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status; has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for state threatened or endangered status.
- **FP = fully protected:** fully protected animal species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. Lists were created for fish (CFGC Section 5515), amphibians and reptiles (CFGC Section 5050), birds (CFGC Section 3511) and mammals (CFGC Section 4700).
- **SC = state candidate for listing:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for addition to the list of endangered species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (CFGC Section 2068).
- **WL = watch list:** watch list status is given to wildlife that are designated as "taxa to watch."
- **S4 = Apparently Secure:** CNDDB designation for species that has an extensive range and/or man populations or occurrences, but there are possible causes for concern due to local declines, threats, or other factors. These species are still monitored as part of the sensitive species inventory.
- **14 CCR 460:** Section 460 of the California Code of Regulations, Title 14, states fisher, marten, river otter, desert kit fox, and red fox may not be taken at any time.

Special-Status Wildlife Species Observed During Surveys

As previously discussed, two special-status wildlife species were observed in the BSA (loggerhead shrike and Crotch's bumble bee), and one was observed in the Swainson's Hawk Survey Area (Swainson's hawk) during the surveys. Below is a summary of these species.

Invertebrates

Crotch's bumble bee (*Bombus crotchii*): Crotch's bumble bee is a state candidate for listing under the CESA. In California, Crotch's bumble bee inhabits open grassland and scrub habitats and requires a hotter and drier environment than other bumblebee species. The Crotch's bumble bee is generally found in multiple habitats, including flowering vegetation, potential preferred nectar plants, small mammal burrows, bunch grasses, thatch, brush piles, old bird nests, or dead trees. Crotch's bumble bee, like most other species of bumble bees, primarily nests underground. Very little is known about the hibernacula, or overwintering sites, utilized by Crotch's bumble bee; however, generally, bumble bees overwinter in soft, disturbed soil or under leaf litter or other debris. Crotch's bumble bee uses a variety of suitable floral resources, including but not limited to, flowering plants in the Asteraceae, Boraginaceae, Fabaceae, and Hydrophyllaceae families.

Between April and June 2026, biologists conducted protocol-level field surveys for Crotch's bumble bee, coinciding with the floral blooming period for the highest probability of detection. On June 8, 2026, four Crotch's bumble bee observations were recorded in the westernmost end of the South BESS area near 170th Street West. However, the four observations are believed to be the same two male Crotch's bumble bees observed multiple times. In addition, on June 9 and 10, at least three male individuals were identified in the same area. The species was foraging on large California buckwheat (*Eriogonum fasciculatum*) shrubs, which were growing abundantly along the side of 170th Street West and were in full bloom.

The overall habitat quality on the site for Crotch's bumble bee is moderate, with one patch of high-quality habitat along 170th Street where the buckwheat shrubs and the species were observed. Small mammal burrows provide potential nesting habitat, but no evidence of any hives was observed during protocol surveys. Blooming plant diversity is also low on the site, and many of the flowering species present are very small. However, Crotch's bumble bees are considered generalists and have been observed foraging on creosote and non-native mustards, which are the two most abundant flowering plant species within the BSA.

Birds

Loggerhead shrike (***Lanius ludovicianus*):** In California, the loggerhead shrike is a species of special concern. This species is a yearlong resident in lower elevations throughout most of the United States, except for portions of the northwest and northeast, and also occurs in Mexico and Canada. In California, loggerhead shrikes are widespread in lower elevations, with the largest breeding populations located in portions of the Central Valley, the Coast Ranges, and the southeastern deserts. This species nests within trees and shrubs and uses broadleaved upland forest, desert wash, Joshua tree woodland, Mojavean Desert scrub, pinyon and juniper woodlands, riparian woodland, and Sonoran Desert scrub habitats. Loggerhead shrikes forage in open areas with low-growing vegetation that includes shrubs, trees, posts, fences, utility lines, or other structures that provide hunting perches with views of open ground. Loggerhead shrike was observed within the project site during the 2024 field surveys and adjacent to the project site during the 2023 field surveys. In addition, a prey cache, a common indicator of a loggerhead shrike's use, was observed just outside the BSA. The BSA provides suitable nesting habitat for the species as well.

Swainson's hawk (***Buteo swainsoni*****):** In California, the Swainson's hawk is designated as a threatened species. They prefer larger isolated trees or small woodlots for nesting, usually with grassland or dryland grain fields nearby for foraging. Swainson's hawks forage in grassland, open scrub, pasture, and dryland grain agricultural habitats, primarily for rodents. Swainson's hawks exhibit a moderate to high nest site fidelity at successful nest sites. Swainson's hawks are known to nest in Joshua tree woodland habitat and forage in grasslands and native desert scrub habitats.

A nesting habitat assessment for Swainson's hawk was conducted in 2024. Before conducting a field survey, a desktop review was performed to determine the special-status species and habitats that have been documented in the project vicinity. The CNDDB search yielded 21 documented occurrences of Swainson's hawk within a 9-quadrangle search around the BSA. Most of these observations are located approximately 8 to 12 miles east of the project site, near agricultural fields, with nests noted as occurring in introduced or ornamental tree species such as Aleppo pine (*Pinus halepensis*), tamarisk (*Tamarix* sp.), and Chinese elm (*Ulmus parvifolia*), although a few nests were observed in native trees such as Arizona cypress (*Cupressus arizonica*), willows (*Salix* sp.), cottonwoods (*Populus* sp.), and western Joshua trees. Of the 21 records, only two observations were recorded within 5 miles of the project site. The closest record, located about 2 miles southeast of the project site, details active nests observed on Chinese elm trees from 2016 to 2020. The second record dates to 2021 of an active nest found on a Joshua tree located about 4.5 miles northeast of the project site.

During the 2024 field survey, potentially suitable Swainson's hawk nesting habitat was identified within one mile of the project site, including WJTs and California juniper trees (*Juniperus californica*). However, no Swainson's hawk individual, active Swainson's hawk nest, or active raptor nest of any kind was observed. Three active common raven nests and one inactive large nest were observed along the lattice transmission towers that extend to the northeast of the SCE Whirlwind Substation. It could not be determined conclusively if the inactive nest was a common raven or a raptor nest. One hawk was observed in the BSA, but distance prevented species identification.

A second protocol nesting habitat survey was conducted in 2025. The records search resulted in the same occurrences as described in the 2024 survey. The Swainson's hawk protocol surveys were conducted over 10 field days between March 19, 2025, and June 23, 2025, using methods from the California Energy Commission and California Department of Fish and Game. There were observations of Swainson's hawk adults during four of the survey days in the 5-mile buffer, but no breeding behavior, nests, or chicks were observed. This is with the exception of one observation of a Swainson's hawk nest with one chick and two nearby adults that was made outside of the 5-mile buffer, approximately 5.5 miles from the project site.

Although no Swainson's hawk nests or breeding behavior were observed during the 2025 surveys, it was determined that there is potential for the species to nest on the project site and in the 5-mile buffer due to the existing potential nesting habitat, the live individuals observed during surveys, and past nest occurrence records. Active competing nest species observations over the protocol survey period included five great horned owls, two red-tailed hawks, and 11 common raven nests.

Protocol Swainson's hawk surveys were conducted for the 2026 season following CDFW's recommended survey protocol (*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*, California Energy Commission and Department of Fish and Game, June 2, 2010). The protocol surveys were completed over 10 days and 4 Survey Periods (Survey Period I: March 29; Survey Period II: April 7, 20, 23; Survey Period III: May 4, 13, 25; Survey Period IV: June 14, July 10, and July 11) for the project site and a 5-mile buffer.

Initially, a pair of Swainson's hawks was observed bringing nesting material to a tree located approximately 2.1 miles southeast of the project site. An adult Swainson's hawk was observed perching on and tending to this nest, and continued this activity throughout the observation period. The mate was seen in the general area, perched on trees and soaring over adjacent agricultural fields. During the second period of surveys, this nest was no longer found in the tree, and no Swainson's hawks were observed in the vicinity. However, a pair of Swainson's hawks, presumably the same pair previously seen, was observed at a new nest site approximately 2.0 miles southeast of the project site. The new nest site is a pine tree located adjacent to fallow agricultural fields. The pair was observed perching on nearby poles, on the ground, and soaring over adjacent fields before returning to the nest tree. While on the nest, the bird was not visible in the scope, and incubation was assumed based on flushing and return behavior. The nesting pair was again observed on May 13, 2026, with similar behavior strongly supporting active incubation. A nest exchange between the female and the male was observed on May 13. Observations on May 22 and 25, 2026, continued to be consistent with active incubation. On June 14, July 10, and July 11, two nestlings were observed being fed by the adults, confirming successful reproduction.

Additionally, an adult Swainson's hawk was observed south of the project site and outside the 5-mile survey buffer near the location of a previously recorded nest. This bird did not exhibit nesting behavior, and no additional observations were documented upon returning. A new Swainson's hawk nest in the incubation stage was also identified in a tree approximately 7.7 miles east of the project site.

Special-Status Wildlife Species Not Observed During Surveys

Invertebrates

Monarch—California overwintering population (*Danaus Plexippus pop. 1*): Monarchs are federally designated as being critically endangered. The species is present in closed-cone coniferous forests, roosts in wind-protected tree groves with nectar and water sources nearby. Witner roost sites extend along the coast from northern Mendocino to Baja California, Mexico. There is a low potential for the species to occur, as the project site does not contain habitat for overwintering and breeding; however, it may forage on nectar in the BSA during migration.

Reptiles

Desert tortoise (***Gopherus agassizii*):** The desert tortoise is designated as a federally threatened and state-listed endangered species. As of June 12, 2025, the desert tortoise, which was previously listed as threatened in California since 1989, has been uplisted to endangered under CESA. The desert tortoise is found in the Mojave Desert in California, extreme southern Nevada, extreme southwest Utah, and extreme northwest Arizona. Desert tortoises inhabit a range of habitats, including creosote bush scrub, blackbrush scrub, alluvial fans, and juniper woodlands. They are most often found on gentle slopes with sandy-gravel soils and a sparse covering of shrubs that contain herbaceous plants that the tortoise feeds upon. Soils must be friable enough for tortoises to dig burrows, and yet firm enough that burrows do not collapse. Tortoises remain in their burrows throughout the winter months, emerging in spring and remaining active through the fall; however, activity decreases dramatically during the summer and is mainly restricted to cooler rainy periods. Tortoises feed on herbaceous vegetation, preferring grasses and flowers, and water is taken in opportunistically.

Between April and May 2024, biologists conducted a habitat suitability assessment and protocol-level presence-absence surveys for the desert tortoise. No desert tortoises and no signs of tortoise presence (i.e., tracks, scat) were observed during the focused survey. Although no individuals or recent signs were found, the assessment concluded that the habitat found in the BSA has a low potential to support the desert tortoise.

This conclusion is based on the presence of a Class 3 burrow within the BSA, which indicates past desert tortoise use. However, the lack of recent desert tortoise burrows or other signs suggests that desert tortoises are not occupying the area.

An additional habitat suitability assessment and protocol surveys were conducted between April and May 2025. No desert tortoise individuals or signs were observed during these surveys. The Class 3 burrow documented in 2024 was not relocated during the 2025 surveys and was further investigated and determined to no longer be present. In addition, the CNDDB records document five Class 2 and two Class 3 burrows located more than 0.70 miles northwest of the project site; these records are over 14 years old and do not include observations of live individuals.

Although the BSA contains some characteristics that indicate moderate desert tortoise suitability, multiple factors indicate overall low suitability. These include high levels of anthropogenic disturbance, the absence of shelters and caves, a limited number of small mammal dens and digs available for burrow modification, and the presence of common raven populations. Based on the results of protocol surveys, literature review, and observed habitat conditions, desert tortoise use and presence are considered unlikely within the BSA.

Southern rubber boa (*Charina umbratical*): Southern rubber boa is a state-threatened species. It occurs in meadow and seep, riparian forest, riparian woodland, upper montane coniferous forest, and wetland. The species is often found in the vicinity of streams or wet meadows and requires loose, moist soils for burrowing. It seeks cover in rotting logs, rock outcrops, and under surface litter. The known range is from the San Bernardino and San Jacinto Mountains, and it can be found in a variety of montane forest habitats. Snakes resembling *C. umbratical* are reported from Mount Pinos and the Tehachapi Mountains group with *C. bottae* based on mitochondrial DNA; further research is needed. The species has a low potential to occur, as the project site does not contain suitable habitat due to a lack of moisture. This species is known to occur about 7 miles northwest of the site.

Northern California legless lizard (*Anniella pulchra*): Northern California legless lizard is a state species of special concern. The species prefers sand or loose loamy soils under sparse vegetation. Soil moisture is essential and preferred. There is a high potential for the species to occur in the BSA because sandy soil, sparse vegetation, and ephemeral washes occur on the project site. The nearest CNDDB occurrence is adjacent to the eastern tie-line corridor.

Birds

Western burrowing owl (***Athene cunicularia*):** In California, the western burrowing owl is a State candidate species and a state species of special concern. The burrowing owl is broadly distributed and can be found throughout western North America and Mexico. This species can be found in a variety of low vegetation habitat types, including grasslands, deserts, or other open habitats where food resources are available. Western burrowing owls utilize earthen burrows, typically relying on other fossorial mammals to construct their burrows, such as the California ground squirrel or American badger. While burrows are most often earthen, owls have been documented using atypical burrows such as pipes, culverts, and other man-made structures as shelter or artificial nest sites.

Between April 2024 and May 2024, biologists conducted an initial habitat assessment and burrow survey for the western burrowing owl in accordance with the guidelines in the Staff Report on Burrowing Owl Mitigation (CDFW 2012). During these surveys, five burrows were observed, mapped, and classified based on size, shape, and signs of use. One burrow exhibited whitewash indicative of past burrowing owl use; however, no additional sign (e.g., pellets, bones, feathers, or other animal scat) was observed. The burrow was old, partially collapsed, and determined to be unoccupied. The second burrow was consistent with the

size and shape of a desert tortoise burrow, rather than a burrowing owl. In addition, it was partially collapsed, and no animal scat or other sign was observed around the burrow. The remaining three burrows were determined to be from small mammals and showed no sign of burrowing owl.

Habitat assessment and protocol-level surveys for the western burrowing owl were also conducted between April 2025 and June 2025. No burrowing owls were observed during these surveys; however, three suitable burrows were identified. One burrow was previously documented in 2024, the second burrow with whitewash was identified off-site between the project site and the SCE Whirlwind Substation, and a third potentially suitable burrow with no burrowing owl sign was identified approximately 250 feet northwest of the project site. All three burrows were partially collapsed, and two were overgrown with vegetation. No burrowing owl individuals, new suitable burrows, or new burrowing owl signs were observed during these surveys.

Numerous burrowing owl predators were observed within the BSA, including common ravens, a prairie falcon, and three red-tailed hawks. Additional evidence of predator activity included canid digs, coyote scat, an active raven's nest in a transmission structure adjacent to the project site, and an active great horned owl (*Bubo virginianus*) nest located approximately 260 feet outside the survey buffer boundary. The numerous lattice transmission structures in the area provide ample nesting opportunities for avian predators.

The 2025 habitat assessment concluded that there is low habitat suitability and a low potential for burrowing owls to inhabit or occupy the project site and adjacent 500-foot buffer. This is reflected in the habitat composition of tall shrub cover being counter to the open with short vegetation habitat that burrowing owls prefer, the high number of observed predators and predator sign, the limited number of suitable burrows, and the absence of burrowing owl observations or recent burrowing owl sign. While none of the surveys conducted for the project observed a burrowing owl or the sign of recent burrowing owl occupation on the project site, tie-line corridors, or the surrounding 500-foot survey buffer, the 2024 Biological Resources Assessment documented observation of a burrowing owl approximately 0.75 miles south of the project site flying west across 170th Street. Therefore, there is a moderate potential for the species to occur within the BSA.

Golden eagle (*Aquila chrysaetos*): Golden eagles are a fully protected state species. They are present in rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of their range, as well as large trees in open areas. There is a moderate potential for the species to occur, as it is known to occur in the vicinity of the project site in the winter, and may forage in or transit through the project site. The species is unlikely to nest due to a lack of preferred nesting habitat, but is known to occasionally use transmission towers for nesting.

California condor (*Gymnogyps californianus*): California condor is listed as federally endangered, state endangered, and state fully protected. This species requires vast expanses of open savannah, grasslands, and foothill chaparral habitat and nests in clefts along the rocky walls of deep canyons. Individuals may forage over distances of up to approximately 100 miles from nesting or roosting sites. The BSA does not provide suitable nesting habitat; however, suitable habitat occurs within mountain ranges to the north, west, and south, and a documented occurrence is located approximately 11 miles from the BSA. Accordingly, there is moderate potential for foraging and low potential for nesting within the BSA.

Ferruginous hawk (*Buteo regalis*): The ferruginous hawk is designated as a state watch-list species associated with open grasslands, sagebrush flats, desert scrub, low foothill habitats, and the edges of pinyon and juniper habitats. Its diet consists primarily of lagomorphs, ground squirrels, and mice, and population levels may fluctuate in response to lagomorph population cycles. The species has a high potential to occur seasonally within the BSA, as it is known to overwinter near the project site and may use the area for

foraging or roosting in the winter. However, nesting is unlikely within or adjacent to the project site because the species typically breeds in northeast California.

Merlin (*Falco columbarius*): The merlin is a watch-list species associated with a variety of habitats, including coastal areas, tidal estuaries, open woodlands, savannahs, grasslands and desert edges, and agricultural lands. The species relies on clumps of trees, woodland patches, or windbreaks for roosting in open country. The merlin has a moderate potential to occur seasonally within the BSA, as it is known to occur in the vicinity of the project during the winter months and may forage or transit through the area. However, nesting within the project site is unlikely because the species typically breeds farther north.

Long-eared owl (*Asio otus*): The long-eared owl is a state species of special concern associated with riparian bottomlands containing tall willows and cottonwoods, or belts of live oak paralleling the stream course. The species requires open land that is productive of mice and the presence of old nests of crows, hawks, or magpies for breeding. The long-eared owl has a low potential to occur within the BSA due to the lack of suitable nesting habitat within the project site. Although the species is considered uncommon in the project vicinity, individuals may forage in the vicinity of the project site.

Prairie falcon (*Falco mexicanus*): The prairie falcon is a watch-list species associated with dry, open terrain that is either level or hilly. Breeding sites are often located on cliffs, and it forages far afield, even to marshlands and ocean shores. The prairie falcon has a high potential to occur within the BSA, as it is known to occur in the vicinity of the project site and may use the area for foraging or transit. Although the species occasionally nests on artificial structures such as transmission towers, nesting within the project site is considered unlikely due to the absence of suitable cliff-side nesting habitat.

Mountain plover (*Charadrius montanus*): Mountain plover is a state species of special concern associated with short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. They also prefer short vegetation, bare ground, flat topography, grazed areas, and areas with burrowing rodents. The species has a low potential to occur seasonally within the BSA because the project site is not considered predicted habitat; however, areas of high predicted habitat occur approximately 0.5 miles south of the project site. The species is also known to occur in the vicinity of the project site during the non-breeding season and winter months and may occasionally forage within or transit through the BSA. Nevertheless, mountain plovers typically winter in agricultural fields and grasslands, habitats that are more suitable than those present within the project site.

Costa's hummingbird (*Calypte costae*): Costa's hummingbird is a state Apparently Secure species and a USFWS-designated Bird of Conservation Concern. This species prefers desert riparian, desert, and arid scrub foothill habitats. There is a high potential for the species to occur, as suitable nesting habitat is present in the desert scrub, and the species is known to occur in the vicinity of the project site.

Tricolored blackbird (*Agelaius tricolor*): Tricolored blackbird is a state-threatened and special concern species. The species is highly colonial and most numerous in the Central Valley and vicinity. It is largely endemic to California, requires open water, protected nesting substrate, and a foraging area with insect prey within a few kilometers of the colony. The species has a low potential to occur within the BSA as it typically forages in agricultural fields or wetlands, and is unlikely to nest on the project site. However, the species may transit or forage on-site and is known to occur in the vicinity of the project site.

Le Conte's thrasher (*Toxostoma lecontei*): Le Conte's thrasher is a state candidate for listing. The species is a desert resident, primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. They commonly nest in dense, spiny shrubs or densely branched cacti in desert wash habitats, usually 2 to 8 feet above ground. Le Conte's thrasher is known to occur in the vicinity of the

project site, and there is suitable nesting habitat available within the project site. Accordingly, there is a high potential for the species to occur within the BSA.

Mammals

Tehachapi pocket mouse (*Perognathus alticola inexpectatus*): The Tehachapi pocket mouse is designated as a state species of special concern. This species is typically associated with chaparral, Joshua tree woodland, valley, and foothill grassland habitats. They are also known to occur in arid annual grasslands and desert shrub communities. They may utilize disturbed environments, such as fallow grain fields and areas dominated by ruderal species (e.g., Russian thistle). Tehachapi pocket mouse constructs burrows for cover and nesting, and may aestivate or hibernate during periods of extreme weather. The species forages on open ground and under shrubs. The BSA provides suitable habitat for the species, including abundant burrows, open ground, and shrub cover for foraging. Accordingly, there is a high potential for this species to occur within the BSA. The species is also documented in the vicinity of the project site, with the most recent recorded sighting in 2011.

San Joaquin pocket mouse (*Perognathus inornatus*): The San Joaquin pocket mouse is designated as a state species of special concern. This species is typically associated with grassland, oak savanna, and arid scrubland habitats in the southern Sacramento Valley, Salinas Valley, San Joaquin Valley, and adjacent foothills south of the Mojave Desert. They are associated with fine-textured, sand, friable soils. While the species is known to occur in the vicinity of the project site, they are typically found in more open, flat grassland or woodland areas. Additionally, the site is not within the predicted habitat, as designated by CDFW. Accordingly, there is a low potential for the San Joaquin pocket mouse to occur within the BSA.

Tulare grasshopper mouse (*Onychomys torridus tularensis*): Tulare grasshopper is designated as a state species of special concern. The species is typically associated with hot, arid valleys and scrub deserts in the southern San Joaquin Valley. The species' diet is almost exclusively composed of arthropods; therefore, it needs an abundant supply of insects. The project site is within a habitat predicted as highly suitable for the species by CDFW. Additionally, Tulare grasshopper mice are often associated with kangaroo rat burrows, which were observed on-site. Accordingly, there is a high potential for this species to occur within the BSA.

American badger (***Taxidea taxus*):** The American badger is designated as a state species of special concern. American Badgers are mid-sized (10 to 11 pounds), burrowing mammals in the weasel family. American badgers use underground burrows for resting, denning, and prey caching. They are well-suited for burrowing and digging and have large, powerful shoulders, stout front legs and feet, large front claws, and short ears. They have distinctly colored faces that sport black patches over a white throat, chin, and cheeks. American badgers are a solitary species with large home ranges that may overlap with other individuals of either sex. In the spring, female badgers give birth to litters ranging from one to five kits. The young badgers stay in their grass-lined den, nursing until 3 months of age. Juveniles may emerge from the den as early as 2 months but stay with their mother until 5 to 6 months.

American badgers are widely distributed throughout the state of California, but may be less common in areas where they historically occurred. American badgers may occur in grassland, shrubsteppe, desert, dry forest, parkland, and agricultural areas, but are most typically found in drier open stages of most shrub, forest, and herbaceous habitats with friable soils present. They require soils that allow the excavation of den sites and support burrowing prey species (such as ground squirrels).

The species and its typical habitat were not identified as having the potential to occur on-site, and no CNDDB occurrences are recorded within 3 miles of the BSA. However, two habitat assessment surveys conducted in conjunction with burrowing owl surveys included incidental observations for American

badger and signs of use. No individual American badgers were observed during these surveys. Five burrows were observed, mapped, and evaluated based on size, shape, and signs of use. All burrows were determined to belong to small mammals and did not show signs of use by American badgers, such as scat or claw marks. No other active or inactive burrows were observed aside from small rodent burrows, which, based on size, would preclude occupation by the larger American badger. Based on the absence of individuals, lack of recent signs, and condition of observed burrows, the surveys concluded that the American badger does not currently occupy the BSA.

Desert kit fox (***Vulpes macrotis arsipus*****):** Desert kit fox has no sensitive status; however, it is a protected species under Section 460 of the California Code of Regulations (CCR), Title 14, and may not be taken at any time. The species occurs in the southeastern deserts of California and is most commonly associated with open desert habitats, including creosote bush scrub, desert flats, and sand dunes. Desert kit foxes use subterranean dens year-round for shelter, pup-rearing, and protection from predators. Although primarily nocturnal, individuals may occasionally be observed near den sites during the day. The species feeds on a variety of prey, including small mammals (e.g., Merriam's kangaroo rat, black-tailed jackrabbits, desert cottontails), birds, lizards, and insects.

Similar to the American badger, the desert kit fox and its typical habitat were not identified as having the potential to occur on-site. However, two habitat assessment surveys conducted in conjunction with burrowing owl surveys included incidental observations for desert kit fox and signs of use. Desert kit fox records are not tracked by the CNDDB; however, several individuals were observed at a nearby solar project site approximately 5 miles from the project site.

No individual desert kit fox was observed during these habitat assessment surveys. Several burrows were observed, mapped, and evaluated based on size, shape, and signs of use. The burrows did indicate signs of use by desert kit fox, such as scat or claw marks. No other active or inactive burrows were observed aside from small rodent burrows, which, based on size, would preclude occupation by the larger desert kit fox. Based on the absence of individuals, lack of recent signs, and condition of observed burrows, the surveys concluded that the desert kit fox does not currently occupy the BSA.

Sensitive Natural Communities

No sensitive natural communities occur on or directly adjacent to the project site or the SCE tie-line corridors.

Critical Habitat

The BSA is not located within designated final or proposed critical habitats for federally listed plant or wildlife species. The nearest critical habitat is located approximately 7 miles northwest of the project site (USFWS 2025).

Wildlife Movement Corridors

As previously discussed, wildlife movement corridors allow wildlife to travel from one habitat or resource area to another. The project is located at the edge of a vast area of generally undeveloped open space that facilitates unimpeded wildlife movement and provides "live-in habitat" for a variety of species. The open space present within and adjacent to the project site is expected to be used by a variety of wildlife species for local wildlife movement. Further, the project site and surrounding vicinity do not contain or function as a unique wildlife movement corridor. The drainages in the area are typically dry and do not have riparian

corridors and drain to a man-made ditch at the Whirlwind Substation; therefore, they do not provide high-quality corridor habitat.

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 Lahontan RWQCB.

The project site is within the Sacatara Creek-Kings Canyon watershed, which straddles Kern and Los Angeles counties. The Sacatara Creek-Kings Canyon watershed is bordered to the north by the Cottonwood Creek-Tylerhorse Canyon, El Paso Creek, and Loveoak Canyon-Pastoria Creek watersheds, to the east by the Rosamond Lake watershed, to the south by the Amargosa Creek and Castaic Creek watersheds, and to the west by the Grapevine Creek and Upper Piru Creek watersheds. This watershed is not tributary to any ocean or other water body.

Based on the results of the jurisdiction delineation prepared for the project, there are a total of seven unnamed drainages within the BSA. **Figure 4.4-1** and **Figure 4.4-2** below present the jurisdictional features in the BSA. The drainages are generally ephemeral depositional channels with sandy bottoms, low sandy banks, and vegetation, if present, is consistent with the upland surroundings. The drainages generally flow from the west and north of the site to the southeast. These drainages convey surface flow in direct response to precipitation and do not support riparian vegetation. The observed ephemeral drainage features are not permanent, standing, or continuously flowing bodies of water and, therefore, do not qualify as waters of the United States under the regulatory authority of the USACE. However, the drainage features potentially meet criteria qualifying them as waters of the State (WOS) and streambeds subject to the jurisdiction of RWQCB and CDFW, respectively.

Five of the drainage features are within the project site, totaling approximately 0.29 acres potentially subject to RWQCB jurisdiction and 2.94 acres potentially subject to CDFW jurisdiction. The remaining two drainage features are within the tie-line corridors, totaling approximately 0.74 acres potentially subject to RWQCB jurisdiction and 1.22 acres potentially subject to CDFW jurisdiction. CDFW's jurisdiction often extends beyond the Ordinary High Water Mark, defining WOS. For the project site, the greatest difference occurs at Drainage Feature 4, where the sheet flow has occasionally escaped the limits of the low-flow channel. This creates what is classified as a Paleo or Historical Channel. A Paleo Channel is not considered jurisdictional under WOS but is considered jurisdictional under the Fish and Game Code. Regulatory resource agencies have ultimate discretion in determining their jurisdiction.

Figure 4.4-1: RWQCB Potentially Jurisdictional Waters

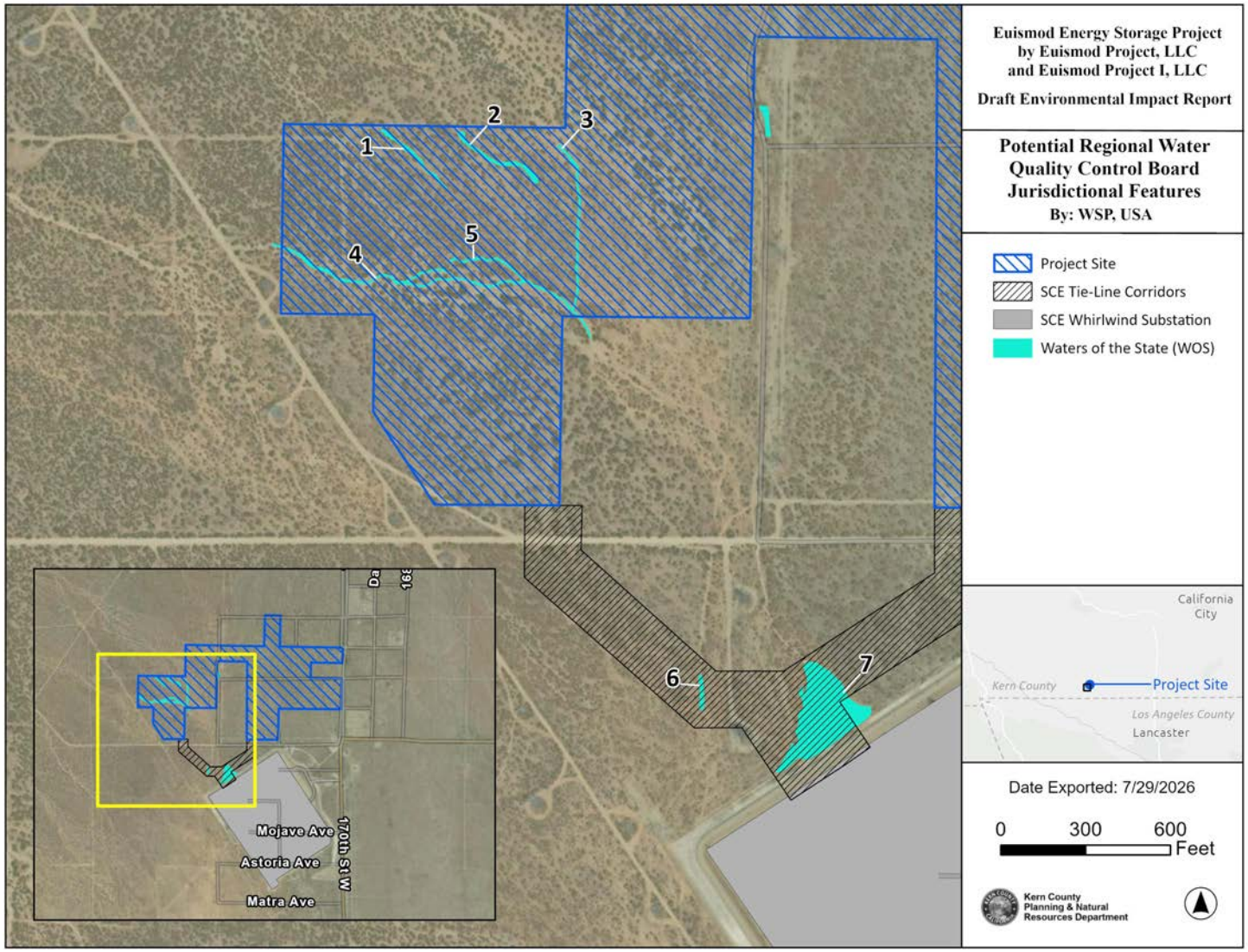
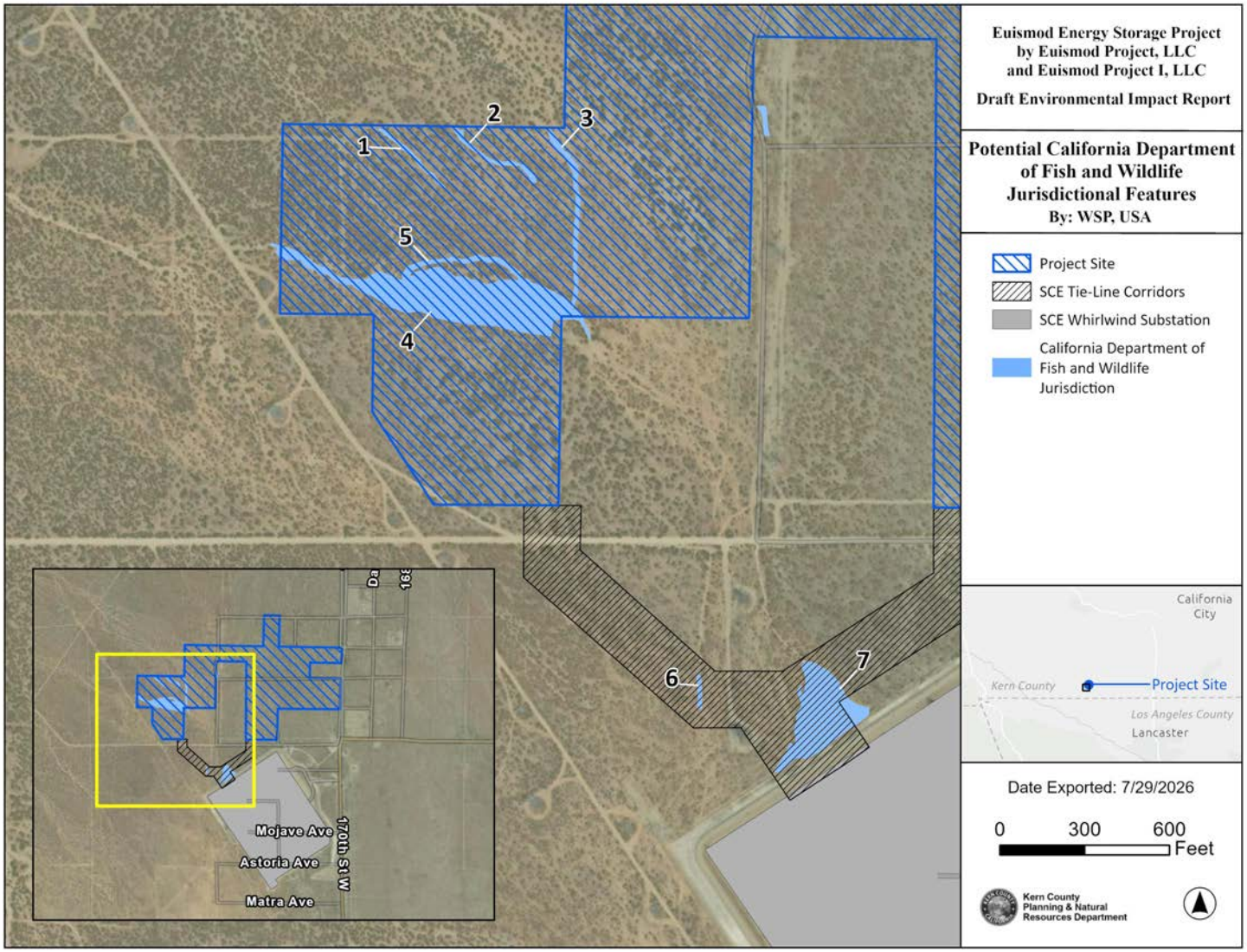


Figure 4.4-2: CDFW Potentially Jurisdictional Waters



4.4.3 Regulatory Setting

Federal

Endangered Species Act of 1973 (Title 16 U.S.C. 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 share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in 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 (ITP). Application procedures are found at Code of Federal Regulations (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 the National Marine Fisheries Service.

Section 4(a)(3) and (b)(2) of the FESA require 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 (Title 16 U.S.C. Sections 703 through 711)

The MBTA, first enacted in 1918, domestically implements a series of treaties between the United States and Great Britain (on behalf of Canada), Mexico, Japan, and the former Soviet Union that provide for

international migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds; the act provides that it shall be unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird" (U.S.C. 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.

Birds of Conservation Concern 2021

The USFWS's *Birds of Conservation Concern (BCC) 2021* identifies migratory bird species, populations, and subspecies that are conservation priorities, but are not currently listed under FESA. Developed pursuant to the Fish and Wildlife Conservation Act (16 U.S.C. Sections 2901–2902), the BCC list is intended to promote coordinated, collaborative, and proactive conservation efforts among international, federal, state, tribal, and private partners. Bird taxa considered for the BCC 2021 list include nongame birds, gamebirds without hunting seasons or where harvest is minimal, and subsistence-hunted nongame birds in Alaska. The BCC 2021 aims to eliminate the need for additional FESA listings by implementing proactive management and conservation actions that sustain populations well above thresholds of endangerment (USFWS 2021). Although the BCC designation does not carry regulatory protections, applicable BCC species are identified and discussed in this analysis.

Bald and Golden Eagle Protection Act of 1940 (Title 16 U.S.C. Section 668, enacted by 54 State. 250)

The Bald and Golden Eagle Protection Act of 1940 protects bald eagles (*Haliaeetus leucocephalus*) and golden eagles by prohibiting the taking, possession, and commerce of these species, and it 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 (72 Federal Register 31132; 50 CFR 22.3).

Federal Clean Water Act (Title 33 U.S.C. 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. Under section 404 of the CWA, the USACE, under the authority of the U.S. Environmental Protection Agency (USEPA), regulates the discharge of dredged and fill material into "Waters of the U.S., including wetlands." USACE implementation 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 USEPA in conjunction with the USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into waters of the U.S. only if there is no practicable alternative that would have less adverse impacts. 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. In California, the State Water Resource Control Board and each of its nine RWQCBs administer the Section 401 water quality certification program. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

State

California Endangered Species Act (CFGC Section 2050 et seq.)

The CESA establishes the policy of the State to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that State agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no State agency consultation procedures under the CESA. For projects that would affect a listed species under both the CESA and the FESA, compliance with the FESA would satisfy the CESA if CDFW determines that the federal incidental take authorization is "consistent" with the CESA under CFGC Section 2080.1. For projects that would result in take of a species listed under the CESA only, the project proponent would have to apply for an ITP under Section 2081(b) to remain in compliance with the CESA.

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 WOS under the Porter-Cologne Act. The RWQCB requires projects to avoid impacts to wetlands if feasible and 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 WOS. The RWQCB also has jurisdiction over certain waters deemed "isolated" or not subject to Section 404 jurisdiction. Dredging, filling, or excavation of isolated waters constitutes a discharge of waste to WOS and prospective dischargers are required obtain authorization through an Order of Waste Discharge or waiver thereof from the applicable RWQCB and comply with other requirements of Porter-Cologne Act. The project is located within the jurisdiction of the Lahontan RWQCB.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Act, WOS fall under the jurisdiction of the appropriate RWQCB. WOS are broadly defined by the Porter-Cologne Act (Section 1305[e]) as "any surface water or groundwater, including saline waters, within the boundaries of the state." Under the Act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the CWA. The project is under the jurisdiction of the Lahontan RWQCB and its associated basin plan.

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 operator is required to notify CDFW prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Pursuant to the code, a "stream" is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that supports or has supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial watercourses

valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water during storm events. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement, which becomes part of the plans, specifications, and bid documents for the project.

Sections 1900 through 1913. These sections of the CFGC, known as California's NPPA, require all State agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that otherwise would be destroyed. The project proponent is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and Sections of CEQA that apply to rare or endangered plants. The project proponent is currently in ongoing consultation with CDFW.

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 NPPA, or the California Desert Native Plants Act." Pursuant to Section 2080.1 or 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.

Section 2800 et seq. Under these sections, California enacted the Natural Community Conservation Planning Act to authorize the creation and implementation of natural community conservation plans (NCCPs) to conserve natural communities at the ecosystem level while accommodating compatible land use. The act was revised in 2003 and has been subsequently amended. An NCCP is intended to function much like a federal HCP and provide for the long-term conservation of wildlife and plant communities in regional locations in a manner that also allows for economic development and growth. Section 2805(e) allows the incidental take of fully protected species that are covered under an approved NCCP.

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 unless authorized by rules or regulations approved by the Secretary of the Interior; the taking, possessing, or needlessly destroying of the nest or eggs of any bird; or the taking of any nongame bird pursuant to CFGC Section 3800.

Sections 3511, 4700, 5050, and 5515. Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the CFGC. These statutes prohibit take or possession of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species.

Sections 4000 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 desert kit foxes, without prior authorization from CDFW.

Sections 5000 through 5002. Under Section 5000 of the CFGC, it is unlawful to conduct activities that would result in the taking, possessing, or harming of a tortoise, without prior authorization from 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 FESA 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 effect on, for example, a candidate species that has not been listed by either USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agencies have an opportunity to designate the species as protected, if warranted. CEQA also calls for the protection of other locally or regionally significant resources, including natural communities. Although natural communities do not at present have legal protection of any kind, CEQA calls for an assessment of whether any such resources would be affected and requires findings of significance if there would be substantial losses. Natural communities listed by CNDDB as sensitive are considered by CDFW to be significant resources and fall under the CEQA Guidelines for addressing impacts. Local planning documents such as general plans often identify these resources as well.

CDFW generally regards as rare many plant species included on CRPR 1A, 1B, 2A, and 2B of the CNPS Inventory of Rare and Endangered Vascular Plants of California. In addition, sometimes CRPR 3 and 4 plants are considered if the population has local significance in the area and is impacted by the project based on CNPS guidance. CNPS lacks the necessary information to assign CRPR 3 plants to other ranks or to reject them. CRPR 4 plants are on a watch list, and are of limited distribution or infrequent throughout a broader area in California. However, all plants classified under a CRPR must be evaluated for impact significance during preparation of environmental documents relating to CEQA (CNPS 2026). CNPS also provides considerations for including CRPR 4 plant taxa in CEQA biological resource impact analyses (CNPS 2020).

Native Plant Protection Act (CFGC Sections 1900 through 1913)

California's NPPA requires all State agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that otherwise would be destroyed. The project proponent is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and Sections of CEQA that apply to rare or endangered plants. The project proponent is currently in ongoing consultation with CDFW.

California Desert Native Plants Act (California Food and Agricultural Code Sections 800071 through 80075)

The California Desert NPPA 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 gigantean*], barrel cactus [*Ferocactus acanthodes*], crucifixion thorn [*Castela* emoryi], panamint dudleya [*Dudleya saxosa*], bristlecone pine [*Pinus longaeva*], and fan palm [*Washingtonia filifera*]).

The California Desert NPPA 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 and candlewood family (*Fouquieriaceae*); and
- Catclaw (*Acacia greggii*), desert-holly (*Atriplex hymenelytra*), smoke tree (*Dalea spinose*), and desert ironwood (*Olneya tesota*).

Western Joshua Tree Conservation Act

The WJTCA is a California law enacted in July 2023. Under this law, the taking, possession, purchase, sale, import, and export of WJT are prohibited except as allowed by the WJTCA (CFGC Section 1927.2), the CESA (CFGC Section 2050 et seq.), or the Natural Community Conservation Planning Act (CFGC Section 2800 et seq.). The WJTCA requires the California Fish and Game Commission to reconsider the listing of the WJT under CESA. Currently, the CDFW classifies the WJT as a candidate for listing. Authorization under CESA is required for take of candidate species as well as those listed as threatened or endangered (CFGC Section 2081).

Under the WJTCA, individuals and entities can obtain take authorization by avoiding and minimizing take to the maximum extent practicable and paying a fee established by the WJTCA. The fee is paid on a per-tree basis and varies based on tree height and project location. Fees under the WJTCA vary between $150 and $2,550 per trunk or stem emerging from the ground, depending on tree height and project location. If the California Fish and Game Commission ultimately lists the species as threatened or endangered under CESA, the WJTCA would become inoperative and take authorization would only be available under CESA.

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern

County Code of Building Regulations, which consist of goals, policies, and implementation measures related to biological resources. The goals, policies, and implementation measures in the Kern County General Plan (KCGP) and the Willow Springs Specific Plan related to biological resources that are applicable to the project are provided below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for biological resources applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

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

1.10 General Provisions

1.10.5 Threatened and Endangered Species

Goals

Goal 1: Ensure that the County can accommodate anticipated future growth and development while a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

Policies

Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and Federal laws.

Policy 28: The County should work closely with State and Federal agencies to assure that discretionary projects avoid or minimize impacts on fish, wildlife, and botanical resources.

Policy 29: The County will seek cooperative efforts with local, State, and Federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.

Policy 30. The County will promote public awareness of endangered species laws to help educate property owners and the development community of local, State, and Federal programs concerning endangered species conservation issues.

Policy 31: Under the provisions of CEQA, the County, as lead agency, will solicit comments from the CDFW and the USFWS when an environmental document (Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report) is prepared.

Policy 32: Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.

Implementation Measures

Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.

Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.

Measure S: Pursue the development and implementation of conservation programs with State and federal wildlife agencies for property owners desiring streamlined endangered species mitigation programs.

Chapter 5. Energy Element

5.2 Importance of Energy to Kern County

Policies

Policy 8: The County should work closely with local, State, and federal agencies to assure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts to fish, wildlife, and botanical resources, wherever practical.

Willow Springs Specific Plan

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). 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 KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for biological resources applicable to the project are provided below. The Willow Springs Specific Plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated in **Chapter 2**, *Introduction*, all goals, policies, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Resource

Policies

Policy 3: To ensure compliance with applicable State and federal laws and to protect the biological resources present in the Specific Plan area.

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 buffer, 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 prior to grading permit issuance.

Measure 18: 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.

Measure 19: Project site plans shall be encouraged by the County Agricultural Commissioner to be designed to preserve shrub communities where the LeConte's thrasher is known to be located, in accordance with State and federal regulations.

Measure 20: Although there is a low potential for the occurrence of desert tortoise in the Specific Plan area, desert tortoises may occur on-site. If tortoises are discovered during subsequent surveys, the State Department of Fish and Game and the U.S. Fish and Wildlife Service shall be contacted immediately.

Measure 21: Whether desert tortoises occur on-site or not, garbage shall be hauled to a facility where it is immediately buried and not left above ground where ravens can congregate. If garbage service is not available, County road maintenance or other utility services shall be made contingent upon parcel owners removing visible trash on their property. The objective of these measures is to minimize the potential for increased raven predation of tortoises in the region subsequent to development.

Measure 23: A Joshua Tree Preservation and/or Transplantation Plan shall be developed by the 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 grading permits, individual project applicants shall obtain all 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 the Army Corps of Engineers.

Biological Resources

Goals

Goal 1: Preserve biological resources within the Specific Plan area.

Policies

Policy 1: Where possible, development shall be designed 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 Update area shall, when possible, be directed towards previously impacted areas (i.e., agricultural fields).

Implementation Measures

Measure 1: Plants protected by the California Desert Native Plants Act shall be preserved to the satisfaction of the Director of the Kern County Department of Planning and Development Services. Property owners should be encouraged to replant any plants which are unavoidably displaced.

Measure 2: Prior to tentative tract map approvals or additional development approvals, focused surveys shall be conducted by a County-approved qualified biologist (subject to the approval of the California Department of Fish and Game and the U.S. Fish and Wildlife Service) to establish the presence or absence of sensitive plant or wildlife species on the tract. Should sensitive species be presents, applicable mitigation shall be implemented per federal, State and local Endangered Species Protection regulations, as determined necessary by the County Agriculture Commissioner.

Measure 3: Initial development within the Update area shall, when possible, be directed toward 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.

Measure 4: Project site plans shall be encouraged by the County Agriculture Commissioner to be designed to preserve shrub communities where the LeConte's thrasher is known to be located, in accordance with State and federal regulations.

Measure 5: Although there is a low potential for the occurrence of desert tortoise in the Specific Plan area, desert tortoises may occur on-site. If tortoises are discovered during the subsequent surveys, the California Department of Fish and Game and the U.S. Fish and Wildlife Service shall be contacted immediately, and appropriate mitigation shall be developed and implemented prior to resumption of development activities.

Measure 7: Plants protected by the California Desert Native Plants Act shall be preserved to the satisfaction of the County Agricultural Commissioner. Property owners should be encouraged to replant any plants which are unavoidably displaced.

Kern County Zoning Ordinance

Chapter 19.81, Dark Skies Ordinance (Outdoor Lighting)

In November 2011, Kern County approved a Dark Skies Ordinance. The purpose of this ordinance is to maintain the existing character of Kern County by requiring a minimal approach to outdoor lighting, recognizing that excessive illumination can create a glow that may obscure the night sky, and that excessive

illumination or glare may constitute a nuisance. The ordinance provides requirements for outdoor lighting within specified unincorporated areas of Kern County in order to accomplish the following objectives:

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

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

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

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

Kern County Development Standards

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

4.4.4 Impacts and Mitigation Measures

This section evaluates the impacts to biological resources that may occur during construction, operation and maintenance, and decommissioning of the 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 a review of relevant literature and field surveys conducted for the project (**Section 4.4.2**, *Environmental Setting*). Biological resources evaluated included sensitive natural communities and aquatic resources, special-status plant and wildlife species, and wildlife movement corridors. The potential for special-status species and habitats to occur in the BSA is based on the results of database research, biological assessments, surveys conducted in the BSA, presence of suitable habitat, and the proximity of the BSA to previously recorded occurrences in the CNDDB, CDFW, and USFWS data that were documented in the *Biological Resources Compendium Report* prepared for the project (**Appendix C1**).

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 the 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, regulations, or by the CDFW or the USFWS;

c. Has 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;

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 HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP.

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 special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

The project has the potential to impact special-status plants and wildlife through the loss of habitat as well as from direct and indirect impacts on species, such as the mortality of individuals or interference with reproductive success. Potential impacts to special-status plants and wildlife from construction, operation and maintenance, and decommissioning are discussed below.

Construction

Construction of the project involves ground disturbance and other activities involved with ground clearing (grubbing, clearing, and grading); installation of BESS, collector substations, and microwave communication towers; and construction of operation and maintenance buildings, access roadways, and other needed infrastructure and improvements that could result in impacts to special-status plant and wildlife species. During construction, the temporary laydown yard (used for the temporary storage of materials and equipment) would be temporarily fenced and secured. The limits of disturbance may also be marked by fencing to avoid disturbance outside the permitted area. Construction fencing would help keep terrestrial wildlife species from entering the project site.

Special-Status Plants

One special-status plant species was observed within the BSA: the WJT, a state candidate for listing and protected under the WJTCA and CDNPA, occurs throughout much of the project site. Additionally, two silver cholla, a protected species under the CDNPA, were documented on the project site. Based on the results of the literature review and database searches, one special-status species, San Joaquin bluecurls, has a moderate potential to occur in the BSA.

Direct impacts on special-status or protected plant species and their habitat may include mortality or removal of individuals resulting from construction activities, such as clearing, grading, and grubbing. Construction equipment, vehicles, or personnel could damage or destroy root systems and disturb or compress soils. Indirect impacts may result from construction-related disturbances, including increased dust generation, erosion, sediment transport, surface run-off, and the introduction or spread of invasive species. Increased dust levels can impact plants' photosynthesis process by coating leaf surfaces, potentially diminishing reproductive success and overall survival of the species. Construction equipment, vehicles, or imported materials could also introduce and spread non-native invasive plant species, which could outcompete special-status plants for resources, such as water, nutrients, and space. Additionally, indirect impacts may include alterations to the site topography and hydrological conditions, which can affect soil moisture, drainage patterns, and habitat suitability.

The BSA has a moderate potential to support San Joaquin bluecurls, a CRPR 4 plant. Although the project has the potential to result in direct and/or indirect impacts on these plants should they exist within and/or adjacent to the project footprint, these impacts would be considered less than significant for the following reasons: 1) impacts on CRPR 4 plants are generally not considered significant (CNPS 2020); 2) these species have low sensitivity statuses and some are widespread in California; 3) if these species were to occur on-site at all, they would most likely occur in low numbers because they were not observed during the numerous field surveys conducted for the project; and 4) the loss of one or a few individuals would not substantially reduce or threaten the regional or local populations of these species below self-sustaining levels. Therefore, impacts to individuals of this species would not be considered a potentially significant impact, and no mitigation would be required.

Although there is a low potential for certain CRPR 1 plants to occur within the study area, impacts on those species, should they exist within the project footprint, would be minimized by implementing **Mitigation Measure (MM) 4.4-1** through **MM 4.4-5.** These mitigation measures state that a qualified Lead Biologist must be retained to oversee compliance with special-status species protections throughout project construction, operation, and decommissioning. All personnel must complete a Worker Environmental Awareness Training Program covering species identification, avoidance measures, and required protocols. Construction activities would adhere to various general avoidance measures and best management practices (BMPs), including maximum speed limits and restricted refueling areas. Pre-construction surveys for special-status plants would occur before construction commences, with additional actions required if special-status plant species with a CNPS Rank of 2B or higher are observed.

Silver cholla

While not a special-status plant species under CESA or FESA, silver cholla is protected under the CDNPA. During rare plant surveys, two silver cholla were documented within the project site. One of the plant species would be directly impacted by project construction, and the second could be subject to indirect impacts. The CDNPA prohibits harvesting these native desert plants, or any parts thereof. Therefore, impacts on this species would be considered significant prior to mitigation.

However, in addition to Mitigation Measures **MM 4.4-1** through **MM 4.4-5**, the project would implement **MM 4.4-6**, which requires the project proponent to provide proof of payment for the removal of silver cholla in accordance with the CDNPA to the Kern County Planning and Natural Resources Department. With the implementation of this mitigation measure, the project would comply with the CDNPA, and impacts would be less than significant.

Western Joshua Tree

As previously discussed under **Section 4.4.2**, *Environmental Setting*, a WJT census study was conducted for the project, which identified approximately 418 WJTs on or within 50 feet of the project site. It is anticipated that approximately 316 of the trees would be directly impacted by project construction, and an additional approximately 46 trees could be subject to indirect impacts, depending on tree size and proximity to disturbances. Because project construction would result in both direct and potentially indirect impacts to WJT individuals, impacts on WJT would be considered significant prior to mitigation.

As mentioned in **Chapter 3**, *Project Description*, the project implemented design features to avoid and minimize impacts on WJT to the extent feasible, such as adjusting access driveways and project layout to minimize direct impacts and incorporating protective fencing at an appropriate setback distance to prevent disturbances to the root system. The project would implement **MM 4.4-7** for WJTs that cannot be avoided. This measure requires that the project proponent consult with CDFW regarding the take of WJT and obtain an ITP. The project proponent would be required to comply with all avoidance, minimization, and compensatory mitigation measures set forth in the ITP. The ITP would likely require the preparation of a Joshua Tree Preservation Plan or other similar plan. The plan would identify the methods utilized to comply with any CESA or CDFW ITP requirements and compensatory mitigation related to the protection or mitigation of impacted Joshua trees.

Additionally, the project proponent would implement **MM 4.4-1** through **MM 4.4-4,** which require a qualified Lead Biologist to be retained to oversee compliance with all biological mitigation measures, implementation of a Worker Environmental Awareness Training Program, and general avoidance measures and BMPs to avoid impacts on special-status and protected plant species during construction, operation, and decommissioning.

While implementation of the project design features and **MM 4.4-7** and **MM 4.4-1** through **MM 4.4-4** would reduce impacts to WJT, the County considers impacts on WJT to be significant and unavoidable due to the number of WJT that would be impacted.

Special-Status Wildlife

Two special-status wildlife species were observed within the BSA: loggerhead shrike and Crotch's bumble bee. Swainson's hawks were observed within the Swainson's Hawk Survey Area (5 miles from the project site), with one pair nesting approximately 2 miles southeast of the project site. The BSA provides suitable habitats and features that could support additional special-status wildlife species. The Northern California legless lizard, Ferruginous hawk, prairie falcon, Costa's hummingbird, Le Conte's thrasher, Tehachapi pocket mouse, and Tulare grasshopper mouse were determined to have a high potential to occur. The western burrowing owl, golden eagle, California condor, and merlin were determined to have a moderate potential to occur. The monarch—California overwintering population, desert tortoise, southern rubber boa, long-eared owl, mountain plover, tricolored blackbird, San Joaquin pocket mouse, American badger, and desert kit fox were determined to have a low potential to occur.

The project would require ground disturbance and construction activities during the construction, operation, and decommissioning phases, which could impact these special-status wildlife species if they are present

at the time these activities occur. Discussions for each species observed or that have any potential (i.e., high, moderate, or low) to occur within the BSA are provided below.

Invertebrates

Crotch's bumble bee: The Crotch's bumble bee is a state candidate species. As previously discussed, up to seven Crotch's bumble bees were observed within the BSA. The overall habitat quality in the BSA is moderate, and small mammal burrows provide potential nesting habitat. The blooming plant diversity is low, and many of the flowering species present are very small. However, the species is considered a generalist and has been observed foraging on creosote and non-native mustards, which are abundant on-site.

Due to the presence of Crotch's bumble bee on-site, vegetation removal and ground-disturbing activities associated with project construction could result in direct and indirect impacts to the species. If individuals or nests are present during construction, impacts would be potentially significant. Pursuant to **MM 4.4-17**, pre-construction surveys for Crotch's bumble bee nesting habitat would be conducted by a Lead Biologist or their designee using methodologies consistent with CDFW's *Survey Considerations for CESA Candidate Bumble Bee* (CDFW 2023), or as otherwise determined adequate per coordination with CDFW. If a Crotch's bumble bee nest is observed on-site, a minimum 50-foot disturbance buffer would be established and maintained around the nest to avoid impacts.

If avoidance of an active nest is not feasible, construction activities in the immediate vicinity would be halted until the nest is determined inactive. Alternatively, if the Lead Biologist determines that take is unavoidable, the project proponent would consult with CDFW to obtain a take permit and would comply with all avoidance, minimization, and compensatory mitigation measures required set forth in any ITP issued for the project.

Implementing **MM 4.4-14** and **MM 4.1-3** (**Section 4.1**, *Aesthetics and Visual Resources*) requires that native vegetation on-site remain undisturbed wherever possible. The measure also requires that a Landscape Revegetation and Restoration Plan (Revegetation Plan) be developed for the project. Once construction is complete, areas supporting native vegetation that would be temporarily disturbed would be revegetated with a native seed mix or native plants, as outlined in the Revegetation Plan. **MM 4.4-18** requires the preparation and implementation of a weed control plan to minimize the spread and establishment of invasive weeds and plants. The weed control plan would ensure that all tires and surfaces of all trucks and construction equipment are cleaned with water or high-pressure air, and/or the use of rocks/grates at the entries to the project site to physically dislodge seeds. Certified weed-free mulch would be used when stabilizing areas of disturbed soils, and on-site soils would be used to the maximum extent practicable for fill.

In addition, the project proponent would implement **MM 4.4-1** through **MM 4.4-3,** which requires a Lead Biologist to oversee all biological mitigation measures, implement a Worker Environmental Awareness Training Program, and ensure all general avoidance and protective measures designed to avoid impacts to special-status species during construction, operation, and decommissioning activities are implemented. Lastly, the project proponent would implement **MM 4.3-2**, **MM 4.3-3** (**Section 4.3**, *Air Quality*)**,** and **MM 4.9-2** (**Section 4.9**, *Hazards and Hazardous Materials*), which require a Fugitive Dust Control Plan, emissions control measures, and use of approved herbicides. Further, the project would be constructed using techniques that allow for retention and reestablishment of vegetation following project construction. Site preparation techniques would minimize impacts on natural vegetation where possible, using mow-and-roll vegetation clearance strategy, and minimizing conventional grading throughout the site to the maximum extent possible. There also is an abundance of suitable habitat surrounding the project site and vegetation supporting the species would continue to be available on the site during project operations. With the

implementation of these mitigation measures, impacts on the Crotch's bumble bee and its habitat would be less than significant.

Monarch—California overwintering population: The monarch—California overwintering population is federally designated as critically endangered. While the BSA does not provide habitat for overwintering and breeding, the species may forage on nectar in the BSA during migration. Construction activities, such as vegetation clearing and grubbing, could result in direct mortality or injury of the species, behavioral disturbances, and loss or alteration of foraging habitat that may be potentially significant.

Potentially significant impacts on monarch foraging habitat would be minimized through implementation of **MM 4.4-14** and **MM 4.4-18**, which would require revegetation of temporarily disturbed areas and calls for retention of natural vegetation on the project site where possible, and the preparation of a weed control plan, which would minimize direct and indirect loss of foraging habitat. Additionally, the project would implement **MM 4.4-1** through **MM 4.4-3** and **MM 4.4-8**, which include requiring a Lead Biologist to oversee all biological mitigation measures; implementation of a Worker Environmental Awareness Training Program; general avoidance and protective measures designed to avoid impacts to special-status species; and pre-construction surveys for special-status wildlife. Additionally, as noted above, the project would be constructed using techniques that allow for retention and reestablishment of vegetation following project construction, and there is an abundance of suitable habitat surrounding the project site and vegetation supporting the species would continue to be available on the site during project operations. With the implementation of these mitigation measures, impacts would be less than significant.

Reptiles

Desert tortoise: The desert tortoise is designated as a federally threatened and state-listed as endangered species. While protocol surveys indicate that the site has a few indicators of moderate desert tortoise suitability, there are also several indicators of low tortoise suitability. The plant communities found on-site support desert tortoise foraging, and there are suitable substrates for burrow construction. However, there are high levels of anthropogenic disturbances, lack of shelter and burrow opportunities, a limited number of small mammal dens and digs available for burrow modification, and the presence of predators such as common ravens. These factors indicate that overall habitat suitability for the desert tortoise within the BSA is low, and the presence of the species within the BSA is unlikely.

If desert tortoise is present during ground-disturbing activities, direct impacts could include death or injury to individuals, displacement of tortoises and loss of territory, disruption of breeding activities, crushing of burrows and viable eggs, and loss of suitable habitat. New perches, increased waste, and ponding water associated with construction activities could attract increased populations of common ravens, a notable predator of juvenile desert tortoises. Indirect impacts could also occur during construction if desert tortoises are present within 500 feet of the project site. These indirect impacts include construction-related noise and ground vibration deterring individuals from inhabiting or foraging in areas near the project site. Additional indirect impacts could occur from construction-related dust, sedimentation, and erosion along the site edges, which have the potential to alter off-site conditions. Noxious weed seeds could be spread during construction activities to off-site habitats that are occupied by tortoise during travel to and from the site or by wind. Non-native vegetation often offers little to no nutritional value to desert tortoises and could reduce their ability to find sufficient amounts of food and increase the risk of fires in the area. These potential direct and indirect impacts on the desert tortoise would be significant without mitigation.

Potential impacts on desert tortoise would be reduced through the implementation of **MM 4.4-1** through **MM 4.4-3, MM 4.4-8, MM 4.4-13,** and **MM 4.4-14**. These measures include requiring a Lead Biologist to oversee all biological mitigation measures; implementation of a Worker Environmental Awareness

Training Program; general avoidance and protective measures designed to avoid impacts to special-status species during construction, operation and maintenance, and decommissioning activities; pre-construction surveys for special-status wildlife, including desert tortoise; a Raven Management Plan; and revegetating disturbed areas of the project site where feasible. Additionally, the project proponent would implement **MM 4.1-3** (**Section 4.1**, *Aesthetics*)**, MM 4.3-2** and **MM 4.3-3** (**Section 4.3**, *Air Quality*)**, MM 4.9-2** (**Section 4.9**, *Hazards and Hazardous Materials*) and **MM 4.13-1** (**Section 4.13**, *Noise*)**,** which require a Landscape Revegetation and Restoration Plan, Fugitive Dust Control Plan, emissions control measures, use of approved herbicides, and reducing noise levels associated with construction, which would further reduce potential impacts on desert tortoise. With the implementation of the aforementioned mitigation measures, impacts on desert tortoise would be less than significant.

Due to the absence of live tortoise occurrence in the BSA and the primarily low-quality habitat on the project site, impacts to potential habitat are considered less than significant.

Southern rubber boa and Northern California legless lizard: The southern rubber boa is a state-threatened species, and the Northern California legless lizard is a state species of special concern. Potentially suitable sand soil, sparse vegetation, and ephemeral wash habitat occurring on-site may support the Northern California legless lizard, and the nearest occurrence is documented adjacent to the proposed tie-lines. There are no suitable riparian or hardwood coniferous forests to support the southern rubber boa in the BSA, and the nearest occurrence is 7 miles northwest of the site. Neither the Northern California legless lizard nor the southern rubber boa was observed within the BSA during biological surveys conducted for the project.

Construction of the project, including vegetation clearing and grubbing, ground disturbance, vehicle traffic, and on-site personnel, has the potential to affect these species if present in or near active construction areas. These impacts may result in direct mortality or injury, behavioral disturbances, and loss or alteration of suitable habitat that may be potentially significant. With implementation of **MM 4.4-1** through **MM 4.4-3** and **MM 4.4-8**, which include requiring a Lead Biologist to oversee all biological mitigation measures; implementation of a Worker Environmental Awareness Training Program; general avoidance and protective measures designed to avoid impacts to special-status species during construction, operation and maintenance, and decommissioning activities; and pre-construction surveys for special-status wildlife, impacts to the these species would be less than significant.

Birds

Loggerhead shrike: During field surveys conducted for the project, loggerhead shrike, a state species of special concern, was observed on-site and was determined to have the potential to nest within suitable habitat in the BSA.

Proposed construction activities would result in the permanent loss of native habitat, including trees, shrubs, open ground, and other physical features that could be used for foraging, transit, nesting, and wintering. However, there is an abundance of suitable habitat surrounding the project site, including creosote bush scrub, cheesebush-sweetbush scrub, Joshua tree woodland, and California juniper woodland, where loggerhead shrike have more dense cover for nesting and more open areas for hunting. Therefore, the loss of habitat is not expected to be significant because of the abundance of suitable habitat surrounding the project site. However, if these species are present during construction activities, direct impacts, such as mortality or injury from construction activities or vehicle collisions, could occur. Direct impacts could also include disturbance or destruction of active nests, resulting in the mortality of eggs or young. Indirect impacts could occur if construction-related noise, human activity, or other disturbances deter individuals from foraging, transiting, or nesting within or near the project site. Disturbance of breeding and foraging

activities from increased noise, vehicle emissions, dust, night lighting, and other human activities could result in potentially significant impacts. Additionally, this species is protected by the MBTA and the CFGC, which render it unlawful to take native breeding birds and their nests, eggs, and young. Should the project result in the loss of an active bird nest or direct mortality of individuals, a potentially significant impact would occur.

Impacts on loggerhead shrike would be avoided and/or minimized by implementing **MM 4.4-9**. This mitigation measure requires the project proponent to conduct pre-construction or pre-decommissioning nesting bird surveys if construction or decommissioning activities are scheduled to begin during the nesting bird season, which is typically between February 1 and August 31. If nesting birds or raptors are observed, an avoidance buffer would be established and maintained until the Lead Biologist or approved Biological Monitor has determined that the nest is no longer active.

The project proponent would also implement **MM 4.4-1** through **MM 4.4-3**, **MM 4.4-14**, and **MM 4.1-3** (**Section 4.1**, *Aesthetics*), **MM 4.3-2** and **MM 4.3-3** (**Section 4.3**, *Air Quality*), **MM 4.9-2** (**Section 4.9**, *Hazards and Hazardous Materials*), and **MM 4.13-1** (**Section 4.13**, *Noise*). With the implementation of these mitigation measures, impacts would be less than significant.

Swainson's hawk: Swainson's hawk is a state-threatened species and is federally protected by the MBTA. Three focused Swainson's hawk surveys were conducted within the Swainson's Hawk Survey Area in 2024, 2025, and 2026. As previously discussed, one active Swainson's hawk nest was identified approximately 2.0 miles southeast of the project site during the 2026 protocol-level surveys. Observations of two nestlings being fed by the adults confirmed successful nesting and reproduction.

The project site consists of mature creosote bush, commonly 8 to 10 feet tall, and features sporadic Joshua trees. Electric transmission structures are present in the area and could provide nesting habitat, although they are known to be infrequently used by the Swainson's hawks. Since the project site and adjacent lands are dominated by mature creosote bush scrub rather than tall trees near agricultural fields, the habitat is not considered high-quality nesting habitat for the species. Nevertheless, the nesting pair may use the project site for foraging. In addition, the WJTs and California junipers present on-site could provide potential nesting opportunities for Swainson's hawks, although such use is considered unlikely given its preference for large, tall trees near agricultural fields.

Project construction would reduce or eliminate a limited amount of potential Swainson's hawk foraging habitat within the project site. However, suitable foraging habitat is abundant throughout the project vicinity and the surrounding landscape; the habitat impacted by the project represents a small portion of the available foraging habitat in the area.

Construction activities also have the potential to result in direct and indirect impacts on nesting Swainson's hawk if active nests are present within or adjacent to the project site during the breeding season. Direct impacts could include disturbance or destruction of active nests, resulting in the mortality of eggs or young. Direct mortality or injury to non-nesting Swainson's hawks during construction is considered unlikely because the species is highly mobile and could avoid construction activities. Therefore, impacts such as vehicle strikes would be expected to be minimal. Indirect impacts could occur if construction-related noise, human activity, or other disturbances result in nest abandonment. Swainson's hawk is protected by the MBTA and the CFGC, which prohibit the take of native breeding birds, including their nests, eggs, and young. Loss of active Swainson's hawk nests as a result of construction or other site preparation activities would constitute a significant impact.

Impacts on nesting and breeding Swainson's hawks would be avoided and/or minimized by conducting ground/vegetation-disturbing activities outside the peak breeding bird season, which generally runs from March 1 to September 15. If construction activities are scheduled to be initiated during the nesting season, the project proponent shall implement **MM 4.4-12**, which requires conducting a pre-construction Swainson's hawk survey of all accessible areas within 0.5 miles of the construction site. If an active nest is detected within 0.5 miles of the project site, a 0.5-mile avoidance buffer would be established around the nest by a Lead Biologist or approved Biological Monitor. No new ground disturbances, habitat conversions, or other project-related activities that may cause nest abandonment or forced fledging within the buffer shall be allowed until the Lead Biologist or approved Biological Monitor has determined the nest is no longer active. If avoidance of an active nest is not possible or take is otherwise unavoidable as determined by the Lead Biologist, the project proponent would consult with CDFW to obtain a take permit and shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth in any ITP issued for the project by CDFW authorizing take of the species.

Additionally, if an active Swainson's hawk nest is found within a 5-mile radius of the project site during pre-construction surveys, the project proponent would be required to implement **MM 4.4-12**. This measure requires mitigation for the loss of moderate quality Swainson's hawk foraging habitat for any portion of the project site within 5 miles of an active nest at a ratio of up to 0.5:1. If one or more active Swainson's hawk nests are identified within 5 miles of the project site, the Lead Biologist would evaluate the vegetation communities within the project disturbance footprint and determine whether they constitute moderate quality Swainson's hawk foraging habitat.

In addition, the project proponent would implement the following measures to help avoid, minimize, and/or reduce impacts: **MM 4.1-1, MM 4.1-3** (**Section 4.1**, *Aesthetics*)**, MM 4.4-1** through **MM 4.4-3**, **MM 4.4-8**, **MM 4.4-9**, **MM 4.4-14**, **MM 4.4-18**, **MM 4.9-2** (**Section 4.9**, *Hazards and Hazardous Materials*), and **MM 4.13-1** (**Section 4.13**, *Noise*). These measures require implementation of a Maintenance, Trash Abatement, and Pest Management Program; implementation of a Landscape Revegetation and Restoration Plan; a Lead Biologist to oversee all biological mitigation measures; implementation of a Worker Environmental Awareness Training Program; general avoidance and protective measures designed to avoid impacts to special-status species during construction, operation and maintenance, and decommissioning activities; pre-construction surveys for special-status wildlife, including bird species; and conducting pre-construction nesting bird surveys; minimization of native vegetation removal; the preparation of a weed control plan; implementation of emissions control measures; and reducing noise levels associated with construction. With the implementation of these mitigation measures, impacts on Swainson's hawk would be less than significant.

Western burrowing owl: The western burrowing owl is a State candidate species and a state species of special concern. Protocol-level western burrowing owl surveys identified six burrows within the BSA, and one burrowing owl sighting outside of the BSA, approximately 0.75 miles south of the project site. No burrowing owls were observed during surveys within the BSA. Although whitewash was observed at some burrows, it appeared old, and no other signs of occupancy were detected. Many of the burrows were collapsed or overgrown with vegetation, indicating a lack of recent use. Additionally, several potential burrowing owl predators were observed within the BSA. While none of the surveys conducted for the project observed a burrowing owl or the sign of recent burrowing owl occupation within the BSA, the 2024 Biological Resources Assessment documented observation of a burrowing owl approximately 0.75 miles south of the project site flying west across 170th Street. Therefore, there is a moderate potential for the species to occur within the BSA.

Project construction would reduce or eliminate a limited amount of unoccupied potential burrowing owl foraging habitat within the project site. However, suitable foraging habitat is abundant throughout the project vicinity and surrounding landscape; the habitat impacted by the project represents a small portion of the available foraging habitat in the area. Thus, impacts on unoccupied potential burrowing owl foraging habitat would be less than significant, and no mitigation is required.

If there is an active burrow within or adjacent to the project site at the time of construction, noise, vibration, and human presence could disrupt normal behaviors, including foraging, breeding, and rearing of young. Construction activities could also result in burrow collapse, inadvertent entrapment, nest abandonment, or direct mortality of eggs, nestlings, or adults. In addition, indirect impacts could occur if disturbance associated with construction causes burrowing owls to avoid otherwise suitable habitat within or near the BSA. Therefore, despite the low potential for burrowing owl occupancy on-site, construction activities have a potentially significant impact on burrowing owls if the species is present during project implementation.

Potentially significant impacts on western burrowing owls would be avoided and/or minimized through the implementation of **MM 4.4-10.** This mitigation measure requires pre-construction surveys to be conducted at least 14 days before ground-disturbing activities occur, consistent with the methods outlined in the Staff Report on Burrowing Owl Mitigation (CDFW 2012). If occupied known and/or occupied nesting burrowing owl burrows are detected, a 500-foot no-disturbance avoidance buffer would be implemented for the duration the burrow remains occupied. If take is unavoidable as determined by the Lead Biologist, the project proponent would consult with CDFW to obtain a take permit and shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth in any ITP issued for the project by CDFW authorizing take of the species. The project proponent would also establish and implement a burrowing owl avoidance and relocation plan, which would be reviewed and approved by CDFW prior to ground-disturbing activities near any active burrow.

In addition, the project proponent would implement the following measures to help avoid, minimize, and/or reduce impacts: **MM 4.1-1, MM 4.1-3** (**Section 4.1**, *Aesthetics*)**, MM 4.4-1** through **MM 4.4-3**, **MM 4.4-8**, **MM 4.4-9**, **MM 4.4-14**, **MM 4.4-18**, **MM 4.9-2** (**Section 4.9**, *Hazards and Hazardous Materials*), and **MM 4.13-1** (**Section 4.13**, *Noise*). These measures require implementation of a Maintenance, Trash Abatement, and Pest Management Program; implementation of a Landscape Revegetation and Restoration Plan; a Lead Biologist to oversee all biological mitigation measures; implementation of a Worker Environmental Awareness Training Program; general avoidance and protective measures designed to avoid impacts to special-status species during construction, operation and maintenance, and decommissioning activities; pre-construction surveys for special-status wildlife, including bird species; and conducting pre-construction nesting bird surveys; minimization of native vegetation removal; the preparation of a weed control plan; implementation of emissions control measures; and reducing noise levels associated with construction. With the implementation of these mitigation measures, impacts on burrowing owl would be less than significant.

Golden eagle and California condor: Golden eagles are a fully protected state species, and California condors are a federally endangered, state endangered, and fully protected species. There is a moderate potential for Golden Eagle and California Condor to forage or transit in the BSA, but there is a lack of suitable nesting habitat. The Golden Eagle is known to occur in the vicinity of the project, and the nearest known occurrence of the California Condor is within 11 miles of the project site. Neither species was observed during the biological surveys conducted for the project.

Development of the project would result in direct loss of foraging habitat or indirect impacts, such as construction-related noise deterring individuals from foraging or transiting within or near the project site.

However, while potential foraging and transiting habitat would be reduced or lost during construction, this reduction would not be considered a significant impact because there is an abundance of foraging habitat surrounding the project site. If present during construction activities, the project would have a low potential to directly impact these species through mortality or injury because the species is highly mobile and could easily avoid construction activities, equipment, and vehicles. Further, Golden Eagles and California Condors typically fly at altitudes much higher than project infrastructure while searching for food or traveling, and collision with the project is considered unlikely.

In addition, the project proponent would implement the following measures to help avoid, minimize, and/or reduce impacts: **MM 4.1-1, MM 4.1-3** (**Section 4.1**, *Aesthetics*)**, MM 4.4-1** through **MM 4.4-3**, **MM 4.4-8**, **MM 4.4-9**, **MM 4.4-14**, **MM 4.4-18**, **MM 4.9-2** (**Section 4.9**, *Hazards and Hazardous Materials*), and **MM 4.13-1** (**Section 4.13**, *Noise*). These measures require implementation of a Maintenance, Trash Abatement, and Pest Management Program; implementation of a Landscape Revegetation and Restoration Plan; a Lead Biologist to oversee all biological mitigation measures; implementation of a Worker Environmental Awareness Training Program; general avoidance and protective measures designed to avoid impacts to special-status species during construction, operation and maintenance, and decommissioning activities; pre-construction surveys for special-status wildlife, including bird species; and conducting pre-construction nesting bird surveys; minimization of native vegetation removal; the preparation of a weed control plan; implementation of emissions control measures; and reducing noise levels associated with construction. With the implementation of these mitigation measures, impacts on the Golden Eagle and California Condor would be less than significant.

Ferruginous hawk, merlin, Long-eared owl, and prairie falcon: Ferruginous hawk, merlin, and prairie falcon are all on a taxa watchlist in California. Long-eared owl is a state species of special concern. Ferruginous hawk has a high potential to occur seasonally within the BSA, as it is known to overwinter near the project site and may forage in or roost in the vicinity of the project site. Merlin has a moderate potential to occur seasonally, as the species is known to occur in the site vicinity in winter and may transit or forage on-site. Long-eared owl has a low potential to occur on-site as there is a lack of suitable nesting habitat, but the species may still forage within the BSA. Prairie falcon has a high potential to occur in the BSA, as it is known to occur on-site to transit or forage, but is unlikely to nest due to a lack of suitable nesting habitat. None of these species was observed during biological surveys of the project site.

Construction activities associated with the project, including vegetation clearing and grading, would reduce the potentially suitable foraging and transit habitat for these species and could indirectly impact these species by deterring individuals from foraging or transiting in areas near the project site due to construction-related noise. However, this loss or limitation of habitat would not be considered significant because extensive similar suitable habitat is available in the surrounding vicinity.

If these species are present during construction activities, the potential for direct impacts, such as mortality or injury from construction activities or vehicle collisions, would be low, as these species are highly mobile and capable of avoiding disturbance. Accordingly, direct impacts would be considered less than significant. To further reduce potential impacts on these species, **MM 4.4-1** through **MM 4.4-3**, **MM 4.4-8**, and **MM 4.4-9** would be implemented. These measures include requiring a Lead Biologist to oversee all biological mitigation measures; implementation of a Worker Environmental Awareness Training Program; general avoidance and protective measures designed to avoid impacts to special-status species during construction, operation and maintenance, and decommissioning activities; pre-construction surveys for special-status wildlife, including bird species; and conducting pre-construction nesting bird surveys. With

the implementation of these mitigation measures, impacts to Ferruginous hawk, merlin, short-eared owl, long-eared owl, and prairie falcon would be less than significant.

Mountain plover, Costa's hummingbird, tricolored blackbird, and Le Conte's thrasher: Mountain plover is a state species of special concern and has a low potential to occur on-site. Costa's hummingbird state Apparently Secure species and a USFWS-designated Bird of Conservation Concern and has a high potential to occur. The tricolored blackbird is a state-threatened and special concern species with a low potential to occur on-site. Le Conte's thrasher is a state candidate for listing with a high potential to occupy the BSA.

Proposed construction activities would result in the permanent loss of native habitat, including trees, shrubs, open ground, and other physical features that could be used for foraging, transit, nesting, and wintering. The loss of habitat is not expected to be significant because of the abundance of suitable habitat surrounding the project site. However, if these species are present during construction activities, direct impacts, such as mortality or injury from construction activities or vehicle collisions, could occur. Direct impacts could also include disturbance or destruction of active nests, resulting in the mortality of eggs or young. Indirect impacts could occur if construction-related noise, human activity, or other disturbances deter individuals from foraging, transiting, or nesting within or near the project site. The disturbance of breeding and foraging activities from increased noise, vehicle emissions, dust, night lighting, and other human activities could result in potentially significant impacts. Additionally, these species are protected by the MBTA and the CFGC, which render it unlawful to take native breeding birds and their nests, eggs, and young. As a candidate species, Le Conte's thrasher also is protected under CESA. Should the project result in the loss of an active bird nest or direct mortality of individuals, a potentially significant impact would occur.

Impacts on mountain plover, Costa's hummingbird, tricolored blackbird, and Le Conte's thrasher would be avoided and/or minimized by implementing **MM 4.4-9**. This mitigation measure requires the project proponent to conduct pre-construction or pre-decommissioning nesting bird surveys if construction or decommissioning activities are scheduled to begin during the nesting bird season, which is typically between February 1 and August 31. If nesting birds or raptors are observed, an avoidance buffer would be established and maintained until the Lead Biologist or approved Biological Monitor has determined that the nest is no longer active. Additionally, for Le Conte's thrasher, if take is unavoidable as determined by the Lead Biologist, **MM 4.4-9** would require the project proponent to consult with CDFW to obtain a take permit and comply with all avoidance, minimization, and compensatory mitigation requirements set forth in any ITP issued for the project by CDFW authorizing take of the species.

The project proponent would also implement **MM 4.4-1** through **MM 4.4-3**, **MM 4.4-14**, and **MM 4.1-3** (**Section 4.1**, *Aesthetics*), **MM 4.3-2** and **MM 4.3-3** (**Section 4.3**, *Air Quality*), **MM 4.9-2** (**Section 4.9**, *Hazards and Hazardous Materials*), and **MM 4.13-1** (**Section 4.13**, *Noise*). With the implementation of these mitigation measures, impacts would be less than significant.

Mammals

Tehachapi pocket mouse, San Joaquin pocket mouse, and Tulare grasshopper mouse: The Tehachapi pocket mouse is a state species of special concern with a high potential to occur within the BSA. The San Joaquin pocket mouse is a state species of special concern with a low potential to occur in the BSA. The Tulare grasshopper mouse is a state species of special concern with a high potential to occur within the BSA. None of these species was observed within the BSA during biological surveys.

Construction activities associated with the project would result in temporary and permanent loss of habitat, injury or mortality of individuals within an occupied burrow, or collisions from project-related equipment

or vehicles. Indirect impacts from construction-related activities could also include noise and vibration disturbances, causing the species to break dormancy or become displaced. Additionally, these species could be impacted by herbicides, pesticides, and other toxins. An abundance of suitable habitat remains around the project site; therefore, no significant impacts on suitable habitat would occur with the development of the project. However, direct and indirect impacts on these species would be significant without mitigation.

Potential impacts on the Tehachapi pocket mouse, San Joaquin pocket mouse, and Tulare grasshopper mouse would be avoided and/or minimized by implementing **MM 4.4-1** through **MM 4.4-3** and **MM 4.4-8.** These mitigation measures require a Lead Biologist to oversee all biological mitigation measures; implementation of a Worker Environmental Awareness Training Program; general avoidance and protective measures designed to avoid impacts to special-status species during construction, operation and maintenance, and decommissioning activities; and pre-construction surveys for special-status wildlife. In addition, the potential impact on foraging habitat would be further reduced through the implementation of **MM 4.4-14** and **MM 4.4-18**, which would require revegetation of temporarily disturbed areas and calls for retention of natural vegetation on the project site where possible and preparation of a weed control plan, which would minimize direct and indirect loss of foraging habitat. With the implementation of these mitigation measures, impacts on the Tehachapi pocket mouse, San Joaquin pocket mouse, and Tulare grasshopper mouse would be less than significant.

American badger and desert kit fox: The American badger is designated as a species of special concern in California, and the Desert Kit Fox is protected as a fur-bearing mammal under CFGC. While literature review and database searches did not indicate that the project site has potentially suitable habitat, additional observations were made in conjunction with burrowing owl surveys. The surveys identified generally suitable habitat for the American badger and Desert Kit Fox within the BSA. Potential desert kit fox and American badger burrows were observed on-site, but the burrows were old, collapsed, and showed no signs of use by either species. In addition, no individual desert kit fox or American badger was observed during the field surveys. Therefore, the species have a low potential to occur on-site.

While these species are not currently occupying the BSA, potentially suitable habitat is present, and the species are highly mobile. As a result, these species have the potential to be present in the BSA. If these species are present on-site during construction activities, direct impacts could include injury or mortality of individuals within an occupied burrow or collisions with project-related equipment or vehicles. Indirect impacts from construction-related disturbances, including noise and vibration, increased human presence, and nighttime lighting. These potential impacts would be considered significant without mitigation.

Potentially significant impacts would be addressed through the implementation of **MM 4.4-8**, which requires a Lead Biologist knowledgeable in the identification of special-status wildlife species to conduct pre-construction surveys within 30 days of scheduled ground-disturbing activities. If potential American badger or desert kit fox dens are found during pre-construction surveys, **MM 4.4-11** would be implemented to establish appropriate buffer distances. If active or potentially active dens within the project site are identified and avoidance buffers cannot be implemented, **MM 4.4-11** would authorize passive relocation by the Lead Biologist.

In addition, the project would implement **MM 4.4-1** through **MM 4.4-3**. These measures include requiring a Lead Biologist to oversee the implementation of all biological mitigation measures and general avoidance and protective measures designed to avoid impacts to special-status species during construction, operation and maintenance, and decommissioning activities; and implement a Worker Environmental Awareness Training Program. With the implementation of these mitigation measures, impacts to desert kit fox and American badger would be less than significant.

Operation and Maintenance

Direct impacts on special-status species during operation and maintenance would be limited because construction activities would remove most suitable habitat within the project site, except to the extent revegetation is required as described above. Operation and maintenance activities would involve minimal vehicle traffic, few on-site personnel, and infrequent use of heavy equipment.

Project operations could indirectly impact special-status wildlife species in the proximity of the project if nighttime lighting is used. However, potential impacts would be minimized through the implementation of **MM 4.1-6**, which requires compliance with Kern County's Dark Skies Ordinance. The Kern County Dark Skies Ordinance would ensure the minimization of nighttime lighting in unincorporated areas of Kern County. With the implementation of **MM 4.4-1** through **MM 4.4-3**, and **MM 4.1-6**, potential impacts on special-status species resulting from project operation and maintenance would be less than significant.

As discussed in **Section 4.9**, *Hazards*, and **Section 4.18**, *Wildfire*, a battery energy storage fire does not produce embers like a typical structure or wildland fire, thus minimizing the spread of a battery fire to adjacent vegetation. Instead, the principal mechanism for the spread of fire is radiant or convective heat transfer to adjacent exposures. Since embers are typically the primary cause for spreading fires, radiant or convective heat transfer reduces the likelihood of fire spread and ignition of adjacent vegetation or off-site areas. The fire risk associated with radiant or convective heat transfer would be addressed by complying with Kern County Fire Code and National Fire Protection Association 855 standards. These standards and codes include rigorous bench-scale fire testing, with performance-based criteria demonstrating that listed enclosures do not pose credible fire risk to adjacent enclosures and that a fire will not propagate beyond a single enclosure under testing conditions, even without the use of suppression. To achieve these results, the design of BESS typically employs various types of passive controls, such as thermal runaway mitigation systems, equipment spacing, setbacks, vegetation control/rock cover, and fire-resistant and/or non-combustible construction materials. Documentation demonstrating compliance with the Kern County Fire Code and National Fire Protection Association 855—including testing results, listings, plans, analysis, and drawings—would be submitted with the building permit application to the Kern County Fire Department for review and approval. Should a battery fire occur, incident response tactics as provided in the Fire Safety Plan (**MM 4.14-1**), Emergency Response Plan, and project-specific training would reduce the likelihood of a fire spreading. With the implementation of **MM 4.14-1**, in addition to complying with applicable regulatory requirements and design standards, the project is not expected to result in a significant impact on biological resources as a result of a wildfire; impacts would be less than significant.

Swainson's hawk and loggerhead shrike: As discussed in **Chapter 3**, *Project Description*, transmission lines and structures would be installed from the two points of change in ownership that extend from the collector substations on-site to the SCE Whirlwind Substation. Potential direct impacts to raptor species during project operation and maintenance could occur from collisions and/or electrocution. Factors that may determine the risk of avian collisions with man-made structures include the size, height, and specific attributes of the structures (e.g., lighting/light attraction). Other factors include the siting of structures in high-risk areas, frequency of inclement weather, type of development, and the species at potential risk. While collision/electrocution impacts are potentially significant, impacts would be reduced through the implementation of **MM 4.4-15**. This measure requires power lines to be installed per Avian Power Line Interaction Committee (APLIC) standards. Additionally, **MM 4.1-2** and **MM 4.1-6** (**Section 4.1**, *Aesthetics*) would be implemented to ensure compliance with Kern County's Dark Skies Ordinance and the use of non-reflective materials. The implementation of these measures would minimize the likelihood of collisions and/or electrocution.

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 fencing, transmission wires, and heavy equipment. Such risks are commonplace with most human development activities. The factors that have been empirically demonstrated to result in elevated collision risk at various types of facilities and structures (e.g., wind turbines) are not present at the project site, and would incorporate only minimal lighting and adhere to BMPs in an effort to avoid attracting avian species. Thus, while individual impacts may be expected to occur due to collisions with project facilities and equipment, the risk of significant impact to avian populations is minimal.

Factors that may determine the risk of avian collisions with man-made structures include the size, height, and specific attributes of the structures (e.g., lighting/light attraction). Other factors include the siting of structures 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 transmission lines. Collisions with project facilities and equipment would be considered a potentially significant impact under CEQA. To mitigate this potentially significant impact, **MM 4.4-15** requires that any power lines installed by the project comply with the applicable standards provided by the APLIC. Additionally, **MM 4.1-2** and **MM 4.1-6** (**Section 4.1**, *Aesthetics*) would also be implemented to ensure compliance with Kern County Dark Skies Ordinance and the use of non-reflective materials. With the implementation of these mitigation measures, potential impacts on migratory birds would be less than significant during operation and maintenance.

Decommissioning

The post-project condition of the project site as a result of project construction and operation would be different than pre-project conditions. The project site would be disturbed and have some areas of compacted soil (e.g., on roads, laydown yards, and structure foundations). If special-status species have recolonized the project site during the operation and maintenance phase, decommissioning activities could impact these species. Wildlife with the potential to utilize partially developed habitats and man-made structures include the western burrowing owl, desert kit fox, badger, and nesting birds.

Direct and indirect impacts on biological resources would be similar to those that would occur during construction, but would depend on the resources present at the time of decommissioning. Additional indirect impacts could include the degradation of on-site or nearby habitat if the project site is colonized by invasive species or generates excessive run-off or dust due to a lack of vegetation. Depending on the species and biological resources present within and adjacent to the project site at the time of decommissioning, decommissioning activities could result in significant impacts on these resources.

While impacts during decommissioning are potentially significant, impacts would be reduced through implementation of **MM 4.1-1, 4.1-3, 4.1-6** (**Section 4.1**, *Aesthetics*), **MM 4.4-1** through **MM 4.4-4**, **MM 4.4-8**, **MM 4.4-9**, **MM 4.4-14, MM 4.4-15, MM 4.4-18** and **MM 4.14-1** (**Section 4.14**, *Public Services*), which require a Lead Biologist to oversee all biological mitigation measures; implementation of a Worker Environmental Awareness Training Program; general avoidance and protective measures designed to avoid impacts to special-status species during construction, operation and maintenance, and decommissioning activities; implementation of stormwater quality BMPs; pre-construction surveys for special-status wildlife, including bird species; conducting pre-construction nesting bird surveys; minimization of native vegetation removal; installation of power lines per APLIC standards; implementation of a Maintenance, Trash Abatement, and Pest Management Program; implementation of a weed control plan; implementation of a Landscape Revegetation and Restoration Plan; implementation of a Fire Safety Plan; and compliance with Kern County's Dark Skies Ordinance to minimize nighttime

lighting. 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.

SCE Whirlwind Substation Upgrades

The project includes two 220-kilovolt overhead tie-lines to the SCE Whirlwind Substation located on the adjacent parcels to the south of the project site. SCE's work activities outside of the Whirlwind Substation, including tie-line access clearing, installation of telecommunications lines, installation of tie-line support poles or towers, stringing of overhead conductors, and operation and maintenance of the tie-lines to the Point of Change of Ownerships, would disturb all land within a 100-foot-wide corridor centered on each of the off-site tie-line alignments. Within the existing Whirlwind Substation, each tie-line would require the installation of facilities for a new 220-kilovolt switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3.0**, *Project Description*.

The *Biological Resources Compendium Report* (**Appendix C1**) evaluated the SCE tie-line corridors as part of the overall project analysis. Impacts associated with SCE work would be substantially smaller in scope compared to those described above for the rest of the project and would occur in areas largely subject to previous disturbance. Further, unlike the project, the SCE tie-lines would not affect WJTs. As described in the *Western Joshua Tree Census* (**Appendix C8**), no WJTs are present within the tie-line corridors. In addition, the proposed upgrades to the SCE Whirlwind Substation are not expected to affect biological resources because all improvements would occur within the existing developed substation footprint. SCE would implement standard BMPs, including pre-construction surveys and avoidance measures, and would comply with applicable state and federal laws relating to protected species; thus, the potential impact to special-status wildlife and plant species would be less than significant.

Mitigation Measures

Implementation of **MM 4.1-1, MM 4.1-3, MM 4.1-6** (**Section 4.1**, *Aesthetics*), **MM 4.3-2, MM 4.3-3** (**Section 4.3**, *Air Quality*), **MM 4.9-2** (**Section 4.9**, *Hazards and Hazardous Materials*), and **MM 4.13-1** (**Section 4.13**, *Noise*), **MM 4.14-1** (**Section 4.14,** *Public Services*), as well as **MM 4.4-1** through **MM 4.4-18** would be required.

MM 4.4-1: Prior to the issuance of grading or building permits, and prior to decommissioning, the project operator shall retain a Lead Biologist(s) who meets the qualifications of an Authorized Biologist as defined by the USFWS, to oversee compliance with protection measures for all listed and other special-status species that may be affected by the construction, operation, and decommissioning of the project. The contact information for the Lead Biologist shall be provided in writing to the Planning and Natural Resources Department.

The following measures pertain to the Lead Biologist:

a. The Lead Biologist or approved Biological Monitor shall be on the project site as required during construction and decommissioning of the project, and shall monitor all initial ground-disturbance activities and remain on-call throughout construction/decommissioning. Initial ground-disturbing construction activities include, but are not limited to, installation of perimeter fencing, clearing of vegetation, grading, site buildout, and decommissioning.

b. The project operator shall retain a Lead Biologist to oversee compliance with protection measures during operations.

c. The Lead Biologist or approved Biological Monitor shall have the right to halt all activities that are in violation of the special-status species protection measures, as well as any regulatory permits from the USFWS and/or CDFW, if applicable. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk.

MM 4.4-2: Prior to the issuance of grading or building permits, or decommissioning of the site, the Lead Biologist shall develop a Worker Environmental Awareness Training Program containing life history and identification information of special-status wildlife and plant species with potential to occur onsite, best management practices for natural resource protection, laws, project rules and guidance for resource protection, and instruction for identifying and responding to applicable project requirements. The Worker Environmental Awareness Training Program shall review responsibilities for all on-site personnel, including trash control, checking under and around vehicles and heavy equipment before starting, scanning for wildlife resources, contacting the Lead Biologist in the unanticipated instance of encountering special status wildlife species, and prohibition of pets and firearms. All on-site personnel shall be required to attend a worker environmental training. A sticker shall be placed on hard hats, indicating that the worker has completed the Worker Environmental Awareness Training. Copies of all prepared materials including, but not limited to, PowerPoint presentations, videos, information handouts and signed acknowledgement from each worker who has attended the required training shall be provided to the Kern County Planning and Natural Resources Department.

MM 4.4-3: During project construction and decommissioning, the project proponent and/or contractor(s) shall implement the following general avoidance and protective measures:

a. Immediately prior to conducting vegetation clearing or similar activities, the Lead Biologist or their designee shall perform a pre-construction visual survey of the area to ensure that no special-status species are present. Daily reports of these inspections shall be retained by the Lead Biologist and provided to the Kern County Planning and Natural Resources Department, and as required by resource agency permits issued to the project.

b. All proposed temporary impact areas, including battery energy storage areas, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with temporary perimeter fencing prior to construction to avoid natural resources where feasible. Construction-related activities outside of the designated impact area shall be prohibited. Temporary fencing shall be designed and installed during construction activities to avoid wildlife entanglement and maintain wildlife permeability by incorporating features, such as a one-foot offset between overlapping fence segments or a 4- to 7-inch gap between the bottom of the fence and the ground surface, or another Lead Biologist-approved design that provides equivalent wildlife permeability. The temporary fencing design and installation shall be subject to approval by the Lead Biologist. All temporary fencing shall be removed upon completion of the project construction.

c. Access roads that are planned for use during construction activities shall not extend beyond the planned impact area; this area includes all previously disturbed lands and any location within the project fenceline not delineated for avoidance of sensitive biological resources. Where new access routes are required, the route shall be clearly marked prior to construction.

d. The project proponent/operator shall minimize the areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be demarcated, and disturbance activities, vehicles, and equipment shall be confined to these areas.

e. Any spoils shall be stockpiled in disturbed areas that lack native vegetation to the maximum extent practicable. Spoils that have been stockpiled and inactive for more than 24 hours shall be inspected by the Lead Biologist for signs of special-status wildlife before moving or disturbing.

f. To prevent inadvertent entrapment of desert kit foxes, American badgers, or other animals during construction, all excavated steep-walled holes or trenches more than two (2) feet deep shall be covered with plywood or similar materials at the close of each working day. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks, no less than 12 inches wide and secured at the top, shall be placed a minimum of every 100 feet within the open trench. Covered and non-covered holes or trenches shall be thoroughly inspected for trapped animals by the Lead Biologist at the beginning and end of each working day. Immediately before such holes or trenches are filled, they shall again be thoroughly inspected by the Lead Biologist or trained Staff approved by the Lead Biologist. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape, or the Lead Biologist may capture and relocate the animal (for non-listed species). If a listed species is found trapped, all work in the vicinity 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. The animal shall be allowed to leave the work area and project site on its own, and work shall not resume in the vicinity until the animal is out of harm's way. If the listed animal is injured, then the Lead Biologist or approved Biological Monitor shall immediately contact the USFWS and/or CDFW 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.

g. Burrowing owls, mammals, and nesting birds may use construction pipes, culverts, or similar structures for refuge or nesting. All towers that are of the monopole variety and all hollow vertical structures shall be capped immediately after installation to prevent bird entrapment. Therefore, all construction pipes, culverts, or similar structures with a diameter of four (4) 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 or approved Biological Monitor. 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.

h. No vehicle or equipment parked on the project site shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of listed wildlife species. If present, the animal shall be left to move on its own.

i. Vehicular traffic to and from the project site shall use existing routes of travel. Cross-country vehicle and equipment use outside designated work areas shall be prohibited.

j. A speed limit of 15 miles per hour shall be enforced within the limits of the project site. If night work occurs on the project site, the speed limit shall be 10 miles per hour. This requirement shall be posted with signage noted throughout the site.

k. Fueling of equipment shall take place within existing roads or disturbed areas. No refueling within or adjacent to drainages (within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary.

l. 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 to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.

m. Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife.

n. Intentional and unpermitted killing or collection of any listed plant or wildlife species shall be prohibited.

o. Herbicides that may be used as vegetation control measures in project areas shall be restricted. All uses of such herbicidal compounds shall observe label and other restrictions mandated by the U.S Protection Agency, California Department of Food and Agriculture, and state/federal legislation as well as additional project related restrictions deemed necessary by the USFWS or CDFW. No rodenticides shall be used on the project site.

p. All construction lighting shall be directed downward and focused solely on active work areas within the project site. Lighting shall not be oriented upward, toward the sky, horizontally beyond the work area, or toward adjacent undeveloped habitat. All lighting shall be shielded as necessary to minimize light spill outside the construction footprint.

MM 4.4-4: During construction, operation and maintenance, and decommissioning, project work crews shall be directed to use industry accepted and standard construction best management practices (BMPs) consistent with the County zoning ordinances and with guidelines provided in the California Stormwater Quality Association's Construction Best

Management Practice Handbook, where applicable, to avoid, minimize, and/or reduce potential construction-related impacts on biological resources. BMPs shall be monitored and repaired throughout the life of the project. The project proponent/operator and/or contractor(s) shall implement the general measures described below:

a. BMPs shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan. Detected erosion shall be remedied as described in the *Erosion Control Plan* of the Stormwater Pollution Prevention Plan.

b. Material/spoils generated from project activities shall be located away from jurisdictional areas and environmentally sensitive areas that are not slated for impacts.

c. Jurisdictional areas and environmentally sensitive areas shall be 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.

d. 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 of any jurisdictional areas and environmentally sensitive areas.

e. Drip pans shall be placed under stationary equipment and vehicles when not in use to provide secondary containment for potential leaks and drips.

f. Any spillage of material shall be stopped if it can be done safely. The contaminated area shall be cleaned, and any contaminated materials properly disposed of. For all spills, the project foreman or designated environmental representative shall be notified.

MM 4.4-5: Within 14 days prior to the commencement of ground-disturbing activities, the Lead Biologist or their designee shall perform a pre-construction visual survey of the area to determine if rare plants and/or California Desert Native Plant Act species are present. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur no more than 14 days prior to ground disturbance in specific areas of the site. Copies of reports for these inspections shall be retained by the Lead Biologist and provided to the Kern County Planning and Natural Resources Department to be kept on file and to CDFW upon request.

If no species with a California Native Plant Society Rank of 2B or higher are observed, no further mitigation is required.

If species with a California Native Plant Society Rank of 2B or higher are observed and have not otherwise been accounted for in an approved removal action, they shall be delineated with stakes and/or flagged for avoidance to the extent feasible. After the pre-construction survey determines the exact location of these species, if present, on the project site and the number of individuals or populations present, the project proponent/operator shall submit written documentation to the Kern County Planning and Natural Resources Department confirming implementation of the measures described below:

a. The project proponent/operator shall work with the Lead Biologist to determine the presence of the subject plant species and identify all known locations of subject plant species to establish "avoidance areas". All species with a California Native Plant Society Rank of 2B or higher found within the project site that have not otherwise been

accounted for in an approved removal action shall be avoided by a buffer of 25 feet. Sturdy, highly visible, orange plastic construction fencing (or equivalent material verified by the Lead Biologist) shall be installed around all locations of detected plant species to protect from impacts during the construction phase, until they can be relocated. The fence shall be securely staked and installed in a durable manner that would be reasonably expected to withstand wind and weather events and last at least through the construction period. Fencing will also be installed in such a way as to avoid wildlife entanglement (i.e., installed with a gap between the bottom of the fence and ground level) and promote wildlife permeability. Fencing shall be removed upon completion of the project construction.

b. Any identified species with a California Native Plant Society Rank of 2B or higher present on the site that have not otherwise been accounted for in an approved removal action and that cannot be feasibly avoided in final project design shall require the project proponent to prepare and submit a transplantation plan that includes the following:

    1. Identify an area of occupied habitat to be preserved and removed;
    2. Identify areas of on-site or off-site preservation, restoration, or enhancement locations;
    3. Methods for preservation, restoration, enhancement, and/or translocation;
    4. Indicate a replacement ratio and success standard developed in coordination with the appropriate agencies for impacted individuals;
    5. Establish a monitoring program to ensure mitigation success;
    6. Create adaptive management and remedial measures in the event that performance standards are not achieved;
    7. Ensure financial assurances and a mechanism for conservation of any mitigation lands required in perpetuity.

MM 4.4-6: Prior to the issuance of grading permits, if any silver cholla individuals would be affected by the proposed ground disturbance, the project applicant shall provide proof of fee payment for the removal of silver cholla in accordance with the California Desert Native Plant Act to the Kern County Planning and Natural Resources Department.

MM 4.4-7: Prior to the issuance of grading permits, the project applicant shall consult with CDFW regarding the number of western Joshua trees (WJT) that the project would avoid, relocate, or impact. The project shall obtain an Incidental Take Permit (ITP) for any impacted WJT and shall comply with all avoidance, minimization, and compensatory mitigation measures, as set forth in the ITP issued to the project by CDFW. The project shall avoid western Joshua tree (WJT) individuals, except to the extent that take is permitted by CDFW. Documentation of any such CDFW take authorization and mitigation shall be provided to the Kern County Planning and Natural Resources Department.

Prior to the issuance of a grading permit, the project proponent/operator shall develop a Joshua Tree Preservation Plan or other similar plan as required by any incidental take permit issued to the project by CDFW. The Plan shall be prepared by the Lead Biologist

or their designee pre-approved by Kern County and shall be approved by the appropriate agencies, including Kern County, prior to implementation. At a minimum, the Plan shall identify the methods utilized, as applicable, that the project is taking to comply with any CESA or CDFW take requirements, trees to be relocated, relocation procedures, receiving locations, and compensatory mitigation related to the protection or mitigation of impacted Joshua trees.

MM 4.4-8: Within a maximum of 30 days of the start of ground disturbance for construction or decommissioning activities, a Lead Biologist knowledgeable in the identification of special-status wildlife species with potential to occur on the project site shall conduct pre-construction surveys for special-status wildlife species not otherwise covered by project-specific mitigation measures, including but not limited to, Northern California legless lizard, coast horned lizard, and Tehachapi slender salamander. The survey area shall cover the project site, plus a minimum of 500 feet, where legally accessible. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur no more than 30 days prior to ground disturbance in specific areas of the site.

MM 4.4-9: If construction and decommissioning activities are conducted during the typical nesting bird season (February 1 through August 31), a Lead Biologist or their designee shall conduct a pre-construction or pre-decommissioning nesting survey within 14 days of ground disturbance activities to avoid or minimize potential impacts to avian species. Surveys need not be conducted for the entire project site at one time; they may be phased so that surveys occur within 14 days prior to disturbance in specific areas of the site. The survey area shall cover the project site, plus a minimum 500-foot buffer, where legally accessible.

a. If nesting birds/raptors are observed, a Lead Biologist or approved Biological Monitor shall establish an appropriate buffer distance around the nest site (typically 100 feet for passerines and up to 500 feet for raptors). The buffer shall remain in place until the Lead Biologist or approved Biological Monitor has determined that the nest is no longer active. Encroachment into the buffer or buffer adjustments may occur at the discretion of the Lead Biologist in consultation with the Kern County Planning and Natural Resources Department.

b. If construction is scheduled to occur during the non-nesting season (September 1 to January 31), no pre-construction surveys or additional measures are required for nesting birds, including raptors.

MM 4.4-10: No more than 14 days before commencement of ground-disturbing activities associated with project construction and decommissioning, a Lead Biologist or their designee shall conduct a pre-construction survey for all suitable western burrowing owl habitat proposed for disturbance within the project site, plus a 500-foot buffer, where legally accessible, to determine if occupied known and/or occupied nesting western burrowing owl burrows are present. Survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Game Staff Report on Burrowing Owl Mitigation and shall consist of walking parallel transects 7 to 20 meters (23 to 66 feet) apart, adjusting for vegetation height and density as needed, and noting burrows with fresh burrowing owl sign

or presence of burrowing owl. Burrowing owl burrows shall be evaluated and classified per the definitions below:

a. Potential Burrow: Any subterranean hole four inches or larger for which no current evidence is present to conclude that the burrow is being used by a burrowing owl.

b. Occupied Known Burrow: A burrow that shows sign of burrowing owl presence (whitewash, feathers, pellets, prey remains, eggshell fragments) and presence of at least one burrowing owl. If monitoring confirms that burrowing owl are no longer using a burrow, it will be redesignated as potential.

c. Occupied Nesting Burrow: A burrow where monitoring overseen by the Lead Biologist or approved Biological Monitor demonstrates the presence of burrowing owl eggs, chicks, dependent young, and/or brooding or egg incubation (via inter-burrow scope).

Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur prior to disturbance in specific areas of the site. The western burrowing owl surveys may be conducted in conjunction with other required pre-construction surveys, if timing is appropriate. If construction activities cease for 30 or more days, additional pre-construction take avoidance surveys shall be conducted no less than 24 hours prior to ground disturbance to search for burrowing owls (and sign) that may have colonized the site during periods of inactivity. Copies of the survey results shall be submitted to the Kern County Planning and Natural Resources Department.

a. If potential burrowing owl burrows are detected any time of year, burrows may be excavated under the direct supervision of the Lead Biologist without prior camera monitoring.

b. If occupied known and/or occupied nesting burrowing owl burrows are detected, a no-disturbance buffer shall be established around the burrow and no ground-disturbing activities may occur within the buffer zone.

c. An established burrowing owl burrow no-disturbance buffer may be removed once the burrowing owl(s) is/are no longer using the burrow (redesignated as a potential burrow).

The size of employed no-disturbance buffers may be up to 500 meters (1,640 feet) from an occupied known and/or occupied nesting burrowing owl burrow year-round. Buffer size is dependent upon time of year and level of construction activity disturbance. Depending on the level of disturbance, a smaller buffer may be established by the Lead Biologist based on the visibility and sensitivity responses of each individual burrowing owl. Buffers shall be maintained for the duration the burrowing owl burrow remains occupied as determined by the Lead Biologist.

If, at the commencement of project construction, western burrowing owl is present within the survey area and is either still a candidate species, or has been listed as threatened, or endangered under CESA, and take is unavoidable as determined by the Lead Biologist, the project proponent shall obtain an incidental take permit from CDFW for the species and comply with all avoidance, minimization, and compensatory mitigation requirements provided in any Incidental Take Permit (ITP) issued by CDFW for the project.

MM 4.4-11: If potential American badger or desert kit fox dens are found during pre-construction surveys, the status of the dens shall be evaluated by the Lead Biologist or their designee no more than 30 days prior to project ground disturbance.

a. If the Lead Biologist(s) determines that the den(s) are inactive, den(s) shall be collapsed by the Lead Biologist(s) to prevent occupation of the den(s) between the time of the pre-construction survey and construction activities.

b. If the Lead Biologist(s) determines that the den(s) are active, construction activities shall not occur within 50 feet of an active badger den or 100 feet of an active kit fox den, unless otherwise approved by the Lead Biologist(s).

c. If the Lead Biologist(s) determines that potential den(s) outside of the pupping season may be active, a passive relocation program can occur. The pupping season is defined as March 15–July 31 for American badger and February 1–August 31 for desert kit fox. The program shall consist of determining status of the den(s) (confirming it is a nonmaternity den through remote camera monitoring), excluding American badger or desert kit fox from the occupied nonmaternity den(s) by installation of one-way doors at burrow entrances, monitoring of the den for a minimum of 48 hours to confirm usage has been discontinued, and excavation and collapse of the den.

MM 4.4-12: If construction activities are scheduled to be initiated during the Swainson's hawk nesting season (March 1 through September 15), a Lead Biologist or their designee shall conduct a pre-construction survey of all accessible areas within 0.5-mile of the planned disturbance area to determine the presence and activity of known or new Swainson's hawk nests. Inaccessible areas shall be surveyed by binocular or spotting scope. The pre-construction survey shall occur within 30 days prior to the start of construction. If construction is scheduled to commence outside of the Swainson's hawk nesting season (September 16 to February 28), no pre-construction surveys are required. The pre-construction nest survey shall follow the protocols set out in the California Energy Commission (CEC) and California Department of Fish and Wildlife Guidance (CDFW) (2010).

To the extent feasible, the project applicant shall design the project site to allow sufficient foraging and fledging area to maintain known, active Swainson's hawk nests located within 0.5 miles of the project site, if present. If pre-construction surveys detect a new nesting Swainson's hawk within 0.5 miles of the project site, a 0.5-mile avoidance buffer shall be established around the nest by a Lead Biologist or approved Biological Monitor and no new ground disturbances, habitat conversions, or other project-related activities that may cause nest abandonment or forced fledging within the buffer shall be allowed until the Lead Biologist has determined the nest is no longer active. Encroachment into the buffer may occur at the discretion of a Lead Biologist in consultation with CDFW. Buffer zones may be adjusted by the Lead Biologist in consultation with CDFW and with the County.

If avoidance of an active nest is not feasible, the project proponent/operator shall consult with CDFW regarding the potential for project activities to result in take of the Swainson's hawk. If take cannot be avoided, take authorization through the acquisition of an Incidental Take Permit (ITP) shall be required. The project proponent/operator shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth in the ITP

issued by CDFW. Documentation of any such CDFW take authorization and mitigation shall be provided to the Kern County Planning and Natural Resources Department.

If active Swainson's hawk nests are found within a 5-mile radius of the project site during pre-construction surveys, the project proponent/operator shall mitigate the loss of any moderate quality Swainson's hawk foraging habitat for any portion of the project site within 5 miles of an active nest at a ratio of up to 0.5:1. If one or more active Swainson's hawk nests are identified within 5 miles of the project site, a Lead Biologist shall evaluate the vegetation communities within the project disturbance footprint and determine whether they constitute moderate quality Swainson's hawk foraging habitat.

Mitigation lands may be nested with other compensatory lands provided it meets the necessary biological requirements. The project proponent may consider mitigating for impacts on suitable Swainson's hawk foraging habitat through the purchase of credits from a CDFW-approved conservation bank, such as Butte Valley, or another approved mitigation program. Credits shall provide habitat of equal or better value, as approved by Kern County Planning and Natural Resources Department. Avoided habitat would not count toward impacts in determining compensatory mitigation requirements and may be used to satisfy mitigation requirements if protected by a deed restriction or other conservation mechanism or strategy.

MM 4.4-13: Within 14 days prior to the commencement of any ground-disturbing activities, a Lead Biologist or their designee shall conduct a pre-construction survey in areas with suitable desert tortoise habitat proposed for disturbance within the project site plus a minimum 500 feet buffer, where legally accessible, to determine if desert tortoises are present. The desert tortoise pre-construction survey shall be conducted in accordance with the U.S. Fish and Wildlife Service (USFWS) clearance survey protocols described in the Desert Tortoise Field Manual, including a minimum of two clearance passes, which shall coincide with heightened desert tortoise activity from late March through May and September through October or as determined adequate for the project per coordination with applicable regulatory agencies.

Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur prior to disturbance in specific areas of the site. The desert tortoise surveys may be conducted in conjunction with other required pre-construction surveys, if timing is appropriate. Copies of the survey results shall be submitted to the Kern County Planning and Natural Resources Department.

a. If no Class 1 desert tortoise burrows or tortoises are discovered during pre-construction surveys, no further mitigation for desert tortoise is necessary.

b. If Class 1 burrows or tortoises are identified and avoidance of desert tortoise is not feasible, the project proponent/operator shall consult with USFWS and California Department of Fish and Wildlife (CDFW) regarding the potential for project activities to result in take of the desert tortoise and shall comply with all avoidance (including prescribed pre-construction surveys), minimization, and compensatory mitigation requirements set forth in any issued permit for the project. USFWS and CDFW take authorization requirements shall supersede County requirements. Documentation of

any such take authorization and mitigation shall be provided to the Kern County Planning and Natural Resources Department.

MM 4.4-14: A Raven Management Plan shall be developed for the project site in accordance with U.S. Fish and Wildlife Service (USFWS) guidelines and shall implement management measures for ravens in the project area. This plan shall include at a minimum:

a. Structure designs that eliminate perches, waste management, roadkill management, management of ponded water during construction and operations, and nest removal on structures within the project site.

b. Identification of all common raven nests within the project area during construction.

c. 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 USFWS, California Department of Fish and Wildlife, and the Kern County Planning and Natural Resources Department within five calendar days; and

d. 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 4.4-15: Wherever possible, vegetation removal shall be minimized within the project site. Native vegetation shall remain undisturbed unless removal is necessary for placement of project components to allow for continued use by potential raptor prey species (i.e., small mammals, reptiles, and amphibians).

a. Native vegetation adjacent to the project site shall remain in place as permitted by the Kern County Fire Code.

b. 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 and/or allowed to re-vegetate with the existing native seed bank in the topsoil where possible to establish revegetation.

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

MM 4.4-16: The project proponent/operator shall install power lines in conformance with Avian Power Line Interaction Committee (APLIC) standards for electrocution-reducing techniques as outlined in Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (APLIC, 2006), and the collision-reducing techniques outlined in Reducing Avian Collisions with Power Lines: The State of the Art in 2012 (APLIC 2012), or any superseding document issued by APLIC.

MM 4.4-17: Pre-construction surveys for Crotch's bumble bee shall be conducted prior to initial ground-disturbing activities. The survey area shall consist of suitable habitat areas within the project site and a 50-foot buffer (access permitting). Surveys and timing would be consistent with the survey methodologies set out in the CDFW Survey Considerations for CESA Candidate Bumble Bee (CDFW 2023) or as determined adequate for the project per

coordination with CDFW. The purpose of this survey will be to identify active Crotch's bumble bee nest colonies.

a. If active Crotch's bumble bee nests are discovered on-site, the Lead Biologist or approved Biological Monitor shall establish a 50-foot no disturbance buffer around the nest to reduce the risk of disturbance or accidental take.

b. If establishment of a no disturbance buffer is feasible, construction activities shall not occur within the no disturbance buffer until a Lead Biologist determines that the colony is no longer active (i.e., no Crotch's bumble bees are seen flying in or out of the nest for three consecutive days indicating the colony has completed its nesting season and the next season's queens have dispersed from the colony). Once the nest has been determined inactive, construction activities within the no disturbance buffer(s) shall be allowed to resume.

c. If Crotch's bumble bee is either still a candidate species, or has been listed as threatened, or endangered under CESA, and take is unavoidable as determined by the Lead Biologist, the project proponent/operator shall obtain an ITP for the species and comply with all avoidance, minimization, and compensatory mitigation requirements set forth in any ITP issued for the project by CDFW authorizing take of the species. Documentation of any such CDFW take authorization and mitigation shall be provided to the Kern County Planning and Natural Resources Department.

MM 4.4-18: A Weed Control Plan shall be prepared to address the control of invasive weeds and plants. The Weed Control Plan shall be prepared to the satisfaction of the Kern County Planning and Natural Resources Department and in place before construction activities commence. The Plan shall include, but not be limited to, the following:

a. A risk assessment of the invasive weed and plant species currently known within the project site, procedures to control their spread on-site and to adjacent off-site areas, and procedures to minimize the introductions of new weed and plant species.

b. Preventive measures that would minimize the potential establishment of invasive weed and plant species during project implementation, including the operation and maintenance and decommissioning phases. Measures to minimize the spread and establishment could include:

    1. Clearing and grubbing of all weed species as one of the first actions associated with the construction phase.

    2. Cleaning tires, tracks, undercarriages, and other surfaces of all trucks and construction equipment with water or high-pressure air before entering or leaving work areas where invasive species may be present.

    3. Installing rock pads, grates, or other appropriate features at site entry points to physically dislodge weed seeds.

    4. Using certified weed-free mulch, erosion-control materials, and revegetation materials when stabilizing areas of disturbed soils.

    5. Using on-site soils for fill to the maximum extent practicable.

Establish monitoring requirements to evaluate the effectiveness of weed-control measures and ensure invasive species are adequately managed throughout the life of the project. Corrective actions shall be implemented, as determined in coordination with the Kern County Planning and Natural Resources Department or other agencies, as applicable, if monitoring identifies ineffective control measures

Level of Significance after Mitigation

Impacts would be significant and unavoidable for WJT; however, impacts would be less than significant for all other potentially affected species.

Impact 4.4-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

The project site does not support any riparian habitat and is not located within, or adjacent to, designated or proposed critical habitat for any federally listed plant or wildlife species. Further, no sensitive natural communities occur on or immediately adjacent to the project site. Accordingly, the project would not result in a substantial adverse effect on any riparian habitat or other sensitive natural communities. No impact would occur.

SCE Whirlwind Substation Upgrades

The SCE Whirlwind Substation and tie-line corridors do not support riparian habitat, critical habitat, or sensitive natural communities. Accordingly, no impact would occur.

Mitigation Measures

No mitigation measures would be required.

Level of Significance after Mitigation

No impact would occur.

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.

The *Jurisdictional Waters Delineation Report* (**Appendix C9**) prepared for the project concludes that there are five unnamed ephemeral drainage features within the project site. These drainage features generally flow from the west and north of the project site towards the southeast. The ephemeral drainage features are not relatively permanent, standing, or continuously flowing bodies of water; they only convey surface flow in direct response to precipitation and do not support riparian vegetation.

Waters of the United States

In order to qualify as a wetland, a potentially jurisdictional feature must exhibit all three wetland parameters described in the USACE Arid West Regional Supplement (i.e., vegetation, soils, and hydrology). Although evidence of hydrology (i.e., scour, changes in substrate, shelving) was present within the drainage features

on-site, these areas were dominated by upland plant species. Further, water does not persist long enough in the drainages to create hydric soil conditions, and none of the on-site drainages supported a dominance of hydrophytic vegetation. As a result, none of the drainage features meet the definition to qualify as jurisdictional wetlands; no impact on wetlands would occur.

Waters of the State

The drainages are generally ephemeral depositional channels with sandy bottoms, low sandy banks, and vegetation consistent with the upland surroundings. Of the five drainage features, approximately 0.29 acres meet the definition of WOS under the Porter-Cologne Water Quality Control Act, and approximately 2.94 acres are considered potentially jurisdictional under CDFW pursuant to Section 1600 of the CFGC. CDFW's jurisdiction often extends beyond the Ordinary High Water Mark defining WOS. The greatest difference occurs at Drainage Feature 1, where the sheet flow has occasionally escaped the limits of the low-flow channel. This creates what is classified as a Paleo or Historical Channel. A Paleo Channel is not considered jurisdictional under WOS but is considered potentially jurisdictional under the CFGC. **Table 4.4-4** below summarizes the potentially jurisdictional drainage features found on-site.

TABLE 4.4-4: POTENTIALLY JURISDICTIONAL FEATURES

Drainage Feature No.	Bank-Full Maximum Width (Feet)	Maximum Channel Depth (Feet)	RWQCB Jurisdiction (Acres)	CDFW Jurisdiction (Acres)
Within the Project Site				
1	2	2	0.05	0.05
2	4	1	0.07	0.08
3	21	4	0.04	0.15
4	22	6	0.11	2.53
5	11	4	0.02	0.13
		Project Site Subtotal	*0.56*	*2.94*
Within the Tie-Line Corridors				
6	8	1	0.03	0.03
7	395	2	0.71	1.19
		Tie-line Corridors Subtotal	*0.74*	*1.22*
		Total	**0.29**	**2.94**

Source: Jurisdictional Waters Delineation Report (**Appendix C9**)

Not all areas of the ephemeral drainages would be disturbed by the project. Approximately 0.12 acres of direct impacts on potential WOS under the RWQCB's jurisdiction and 2.80 acres of potential CDFW jurisdictional streambed may occur from project construction. Direct impacts on jurisdictional waters would be addressed with the implementation of **MM 4.4-19** and **MM 4.4-20**. **MM 4.4-19** would require the project proponent to submit a Final Jurisdictional Delineation report to the Kern County Planning and Natural Resources Department, the Lahontan RWQCB, and the CDFW. If WOS cannot be avoided, as currently proposed, the project proponent would implement **MM 4.4-20**, which requires obtaining all applicable

regulatory permits and complying with all avoidance, minimization, and/or compensatory mitigation measures set forth in the issued permits. Compliance with permits issued for the project by the RWQCB and CDFW, and implementation of the measures required by the permits, would mitigate the project's impacts. With the implementation of these mitigation measures, direct impacts on WOS would be less than significant.

Implementation of the project could result in indirect impacts on adjacent jurisdictional features that would not be directly disturbed. As discussed in **Section 4.10**, *Hydrology and Water Quality*, alterations to on-site drainage patterns could affect downstream waters by redirecting flow and run-off. Construction-related activities could also impact jurisdictional waters through erosion, sedimentation, run-off, fugitive dust deposition, soil compaction, and accidental release of hazardous materials. In addition, the introduction and spread of invasive plant species could degrade the ecological functions and values of jurisdictional features. Similar impacts could occur during decommissioning, although their severity would be reduced because site preparation, such as grading and leveling, would not be required. These indirect impacts would be potentially significant.

Potential indirect impacts on jurisdictional waters would be reduced through the implementation of **MM4.4-4**, **MM 4.9-1** (**Section 4.9**, *Hazards and Hazardous Materials*), **MM 4.10-1**, and **MM 4.10-2** (**Section 4.10,** *Hydrology and Water Quality*). These measures required implementation of a Stormwater Pollution Prevention Plan (SWPPP) incorporating erosion and sediment control BMPs; application of BMPs consistent with the Kern County zoning ordinances and guidelines provided in the California Stormwater Quality Association's Construction Best Management Practice Handbook; preparation of a Final Drainage Plan to ensure compliance with applicable stormwater management requirements; and development of a Hazardous Materials Business Plan to prevent and respond to accidental spills. With the implementation of these mitigation measures, indirect impacts on jurisdictional waters would be reduced to less than significant.

SCE Whirlwind Substation Upgrades

Similar to the project site, federally protected wetlands are absent from the tie-line corridors; therefore, no impact would occur. Two potential jurisdictional features were observed within the tie-line corridors. The tie-lines are designed to avoid these features, and the proposed upgrades to the SCE Whirlwind Substation would not impact jurisdictional features because all improvements would occur within the existing developed substation footprint. However, communication lines linking the collector substations and Whirlwind Substation would be placed underground, overhead, or configured with a combination of both. Any work activities with the potential to impact jurisdictional features would comply with applicable state and federal regulations. Accordingly, impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.4-4**, **MM 4.4-19, MM 4.4-20, MM 4.9-1** (**Section 4.9**, *Hazards and Hazardous Materials*), **MM 4.10-1**, and **MM 4.10-2** (**Section 4.10,** *Hydrology and Water Quality*) would be required.

MM 4.4-19: Prior to issuance of any grading or building permit, the project proponent/operator shall submit a final Jurisdictional Delineation report to the Kern County Planning and Natural Resources Department. The report shall include information as shown below as a plan, if necessary, and shall outline compliance with the following:

a. Delineation of all jurisdictional features at the project site. Potential jurisdictional features (ephemeral drainages) within the project boundary identified in the

jurisdictional delineation report that are not anticipated to be directly impacted by project-related activities shall be avoided. This may be shown in plan form.

b. Any material/spoils generated from project activities shall be located away from jurisdictional areas or special-status habitat and protected from stormwater run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.

c. 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.

d. Fueling of equipment shall take place within existing roads or disturbed areas. No refueling within or adjacent to drainages (within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary.

e. No vehicle or equipment parking shall be located within jurisdictional features. If parking must occur within jurisdictional waters, secondary containment (e.g., drip pans) shall be used, even if for short periods of time.

f. Any spillage of material shall be stopped if it can be done safely. The contaminated area shall be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative shall be notified.

MM 4.4-20: If Regional Water Quality Control Board (RWQCB) and/or California Department of Fish and Wildlife (CDFW) jurisdictional resources cannot be avoided, the project proponent/operator shall be subject to provisions as identified below:

a. Prior to ground disturbance activities that could impact RWQCB and/or CDFW jurisdictional resources, the project proponent/operator shall consult with the RWQCB to obtain Waste Discharge Requirements and/or CDFW to obtain a Lake and Streambed Alteration Agreement. Permits shall be obtained prior to disturbance of jurisdictional resources.

b. Compensatory mitigation for impacts to unvegetated streambeds/washes shall be identified prior to disturbance of the features and implemented at a 1:1 ratio, or as otherwise approved by the RWQCB or CDFW either through on-site or off-site mitigation, or purchasing credits from a mitigation bank, such as the Butte Valley Conservation Bank, West Harper Conservation Bank, or WildWest Mojave Desert Conservation Bank, or another mitigation bank approved by the RWQCB or CDFW. Final mitigation ratios and mitigation types will be determined through consultation with the RWQCB and CDFW.

c. The project proponent/operator shall comply with all avoidance, minimization, and compensatory mitigation measures, as set forth in permits issued to the project by RWQCB and/or CDFW.

d. Copies of coordination, proof of compliance, documentation of any mitigation, along with copies of permits obtained from the RWQCB and/or CDFW shall be provided to the Kern County Planning and Natural Resources Department.

Level of Significance

Impacts would be less than significant.

Impact 4.4-4: The project would interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Aquatic features that support fish are absent from the BSA; therefore, the project would not impact fish or fish spawning habitat. In addition, no native wildlife nursery sites, regional wildlife linkages, or designated wildlife corridors occur within or adjacent to the project site. Although project components, including fencing, would introduce physical barriers that could impede wildlife movement within the site, the project is located along the edge of a large expanse of undeveloped open space that would continue to facilitate wildlife movement throughout the surrounding landscape. Existing wildlife movement within the project site is of relatively low quality because on-site and nearby drainages are typically dry, lack riparian vegetation, and discharge to a man-made ditch at the SCE Whirlwind Substation. While wildlife may use the project site for localized movement, there is no evidence that the site functions as a regionally important wildlife movement corridor or concentrates wildlife movement. Furthermore, the project site is not located within a wildlife connectivity area identified by the California Essential Habitat Connectivity Project.

Construction, operation, maintenance, and decommissioning activities could result in indirect impacts on local wildlife movement and behavior through increased noise, lighting, and fugitive dust. However, implementation of **MM 4.3-2** and **MM 4.3-3** (**Section 4.3**, *Air Quality*) would reduce fugitive dust and emissions, **MM 4.13-1** (**Section 4.13**, *Noise*) would limit noise-related disturbances, and **MM 4.1-6** (**Section 4.1**, *Aesthetics*) would ensure compliance with applicable lighting standards, including Kern County's Dark Skies Ordinance. With the implementation of these mitigation measures, the project would not substantially interfere with wildlife movement or connectivity, and impacts would be less than significant.

The project site is located within the Antelope Valley – Edwards AFB IBA and the Pacific Flyway. However, the project would occupy only a relatively small area of the 687,308-acre IBA and would maintain a generally low-profile footprint, except for limited overhead transmission tie-line facilities. Moreover, the surrounding landscape already contains substantial vertical infrastructure, including high-voltage transmission lines and wind turbines. Accordingly, the project would not substantially interfere with avian migratory movement patterns within the IBA or broader regional flyway.

SCE Whirlwind Substation Upgrades

Similar to the project site, the SCE Whirlwind Substation upgrades and tie-line facilities would not impact fish, fish spawning habitat, native wildlife nursery sites, designated wildlife corridors, regional wildlife linkages, or CDFW-designated ECAs or NLBs. The SCE Whirlwind Substation and tie-lines are located within the Pacific Flyway and the Antelope Valley – Edwards AFB IBA. However, the SCE structures and facilities associated with the SCE upgrades result in minimal changes to the existing SCE facilities and would not adversely impact wildlife movement. Potential impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.1-3**, **MM 4.1-6** (**Section 4.1**, *Aesthetics*), **MM 4.3-2** and **MM 4.3-3** (**Section 4.3**, *Air Quality*), **MM 4.4-15**, and **MM 4.13-1** (**Section 4.13**, *Noise*) would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.4-5: The proposed project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

As currently designed, the project is considered consistent with the Kern County General Plan. The project would implement **MM 4.4-1** through **MM 4.4-20** to reduce potential project-related impacts on sensitive biological resources, including special-status species, jurisdictional features, and wildlife movement corridors as discussed above in Impact 4.4-1 through Impact 4.4-4.

The project site is entirely within the Willow Springs Specific Plan. This plan requires the avoidance of WJTs and the creation of a Preservation and Transplantation Plan. While the project implemented design features to avoid and minimize impacts on WJT to the extent feasible, such as adjusting access driveways and project layout to minimize direct impacts and incorporating protective fencing at an appropriate setback distance to prevent disturbances to the root system, it would still result in the direct removal of WJTs. Indirect impacts include dust and soil compaction, leading to habitat degradation. The project would implement **MM 4.4-7**, which requires the project proponent to obtain an ITP from CDFW and comply with all avoidance, minimization, and compensatory mitigation measures outlined in the permit. The ITP would likely require the preparation of a Joshua Tree Preservation Plan or other similar plan, thereby ensuring that the project is consistent with the Willow Springs Specific Plan. With the implementation of **MM 4.4-1** through **MM 4.4-14,** and **MM 4.4-16** through **MM 4.4-20**, impacts related to local policies or ordinances protecting biological resources would be less than significant.

SCE Whirlwind Substation Upgrades

The SCE work would not result in substantial impacts on biological resources. Impacts associated with SCE work would be substantially smaller in scope compared to those described above for the rest of the project and would occur in areas largely subject to previous disturbance. SCE also would implement BMPs related to biological resources during construction and operation. Thus, the SCE upgrades would not conflict with any local policies or ordinances protecting biological resources. Impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.4-1** through **MM 4.4-20** would be required.

Level of Significance after Mitigation

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.

There are no applicable Habitat Conservation, Natural Community Conservation, or other approved local, regional, or state HCPs within the project site that are applicable to the project. Therefore, there would be no impact.

SCE Whirlwind Substation Upgrades

There are no applicable Habitat Conservation, Natural Community Conservation, or other approved local, regional, or state HCPs within the tie-line area that are applicable to the SCE Whirlwind Substation upgrades. Therefore, there would be no impact.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

No impact.

4.4.5 Cumulative Setting, Impacts, and Mitigation Measures

As described in **Chapter 3**, *Project Description*, five cumulative projects are located within a six-mile radius of the project site. The geographic scope for evaluating cumulative impacts on biological resources is the Antelope Valley. This study area is appropriate because the biological resources are expected to be similar to those present at the project site due to their proximity and shared bioregional characteristics. Bioregions are generally defined by physical and environmental features such as watershed boundaries, soils, and topography. Areas north and west of the Tehachapi Mountains and south of the San Gabriel Mountains occur within different bioregions and are separated from the project area by these natural geographic barriers. In addition, SR-14, located along the eastern end of the Western Antelope Valley, serves as a barrier to wildlife movement. Therefore, the Antelope Valley provides an appropriate geographic context for evaluating cumulative biological resource impacts associated with the project and other nearby development.

Several special-status plant and wildlife species occur within the project site and the surrounding area. Implementation of the project, together with other reasonably foreseeable projects in the Antelope Valley, could result in the loss, fragmentation, and degradation of habitat used by special-status species, including the western burrowing owl, Swainson's hawk, loggerhead shrike, and Crotch's bumble bee. The project site also supports habitat for insects, reptiles, rodents, and small birds that provide a prey base for raptors and other wildlife. In addition, literature review and database searches conducted for the project indicate that the broader region supports a diverse range of special-status species.

Given the number of reasonably foreseeable projects in the Antelope Valley, cumulative impacts on special-status species and their habitats could be significant. Future development projects could affect biological resources and would be subject to applicable federal, state, regional, and local agency regulations, including avoidance, minimization, and mitigation requirements. Although the project would implement mitigation measures that would reduce most impacts on special-status species to less-than-significant levels, impacts on WJT would remain significant and unavoidable (**Impact 4.1-1**). Accordingly, when considered together with other projects, the project's contribution to cumulative impacts on biological resources would be considerable. The cumulative impacts of the project on special-status species and their habitats would be significant and unavoidable.

In addition, common raven populations have increased substantially throughout the western Mojave Desert, including the Antelope Valley, over the past several decades. Common ravens are known predators of desert tortoise and burrowing owl, and may also prey upon or compete with many other special-status birds and

raptors. Raven numbers are such that they pose a serious threat to many desert species. Additionally, the common raven population growth is directly attributed to human development and the subsidies that provide food, water, and nesting opportunities supporting this adaptable species. Consequently, the project and other reasonably foreseeable projects in the Antelope Valley have the potential to contribute to elevated common raven populations, increasing predation pressure on desert wildlife and special-status species. These incremental contributions to cumulative impacts on desert wildlife and special-status species could be significant. However, the project would implement **MM 4.4-13**, which requires the preparation of a Raven Management Plan if desert tortoise or signs of desert tortoise are observed during pre-construction surveys. The Raven Management Plan would include structure designs that eliminate perches, waste management, roadkill management, management of ponded water during construction and operations, and nest removal on any structures within the project site, thus reducing potential impacts. Additionally, **MM 4.4-2**, **MM 4.4-3**, and **MM 4.1-1** include measures to minimize attractants to ravens, including proper containment of trash and food waste, worker environmental awareness training, and implementation of a Maintenance, Trash Abatement, and Pest Management Program. With the implementation of these measures, the project's contribution to the cumulative impacts associated with increases in common raven populations would not be cumulatively considerable.

The project, in combination with other reasonably foreseeable projects, has the potential to directly and indirectly impact jurisdictional features through the placement of project facilities, alteration of drainage patterns, and increased run-off or pollution. However, the project would implement **MM 4.10-1, MM 4.10-2, MM 4.4-19,** and **MM 4.4-20**, which requires preservation of existing vegetation and topography, as well as erosions and sediment control BMPs; the preparation of a Final Drainage Plan that would minimize potential increases in run-off; the preparation of a final Jurisdictional Delineation report; and would obtain Waste Discharge Requirements form the RWQCB and Streambed Alteration Agreements with CDFW. Other cumulative projects would also be subject to applicable federal, State, and local regulations related to jurisdictional wetlands and waters. Compliance with applicable regulations and the incorporation of avoidance, minimization, and mitigation measures, the project would not contribute to a considerable cumulative impact on jurisdictional waters. Cumulative impacts would be less than significant.

When considered in combination with reasonably foreseeable projects in the Antelope Valley, the project has the potential to incrementally contribute to the reduction of habitat available for wildlife movement. However, wildlife movement within the project vicinity is generally diffused rather than concentrated within a defined corridor. Substantial areas of undeveloped land would remain available through the flat, open valley floor of the Antelope Valley for continued facilitation of wildlife movement. As a result, the project's contribution to cumulative impacts on wildlife movement would not be cumulatively considerable. Cumulative impacts would be less than significant.

SCE Whirlwind Substation Upgrades

The SCE upgrades would produce only minor changes to existing SCE infrastructure and would not result in substantial impacts on biological resources. Impacts associated with SCE work would be substantially smaller in scope compared to those described above for the rest of the project and would occur in areas largely subject to previous disturbance. SCE also would implement BMPs related to biological resources during construction and operation. Because SCE work is minimal and SCE would implement standard BMPs, the incremental contribution to any cumulative impacts on biological resources would not be cumulatively considerable and would be considered less than significant. No mitigation is required.

Mitigation Measures

Implementation of **MM 4.1-1, MM 4.1-3, MM 4.1-6** (**Section 4.1**, *Aesthetics*), **MM 4.3-2, MM 4.3-3** (**Section 4.3**, *Air Quality*), **MM 4.4-1** through **MM 4.4-20**, **MM 4.9-2** (**Section 4.9**, *Hazards and Hazardous Materials*), **MM 4.10-1, MM 4.10-2** (**Section 4.10**, *Hydrology and Water Quality*), **MM 4.13-1** (**Section 4.13**, *Noise*), and **MM 4.14-1** (**Section 4.14,** *Public Services*) would be required.

Level of Significance after Mitigation

Despite implementation of the above mitigation, cumulative impacts would be significant and unavoidable.

Section 4.5
Cultural Resources

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Section 4.5
Cultural Resources

4.5.1 Introduction

This section of the Draft Environmental Impact Report (EIR) provides contextual background information on cultural resources that may be present at the project site, including the site's prehistoric, ethnographic, and historical settings of the region. This section also summarizes the results of cultural resources assessment, including background research, cultural resources survey of the project site, and a significant evaluation of identified resources. It also describes the regulatory setting, the project's potential impacts on cultural resources, and discusses the need for mitigation measures, where applicable. Native American consultation conducted by Kern County (County) for purposes of compliance with California Environmental Quality Act (CEQA) requirements prompted by Assembly Bill (AB) 52, as well as the project's potential impacts on tribal cultural resources, are addressed in **Section 4.16**, *Tribal Cultural Resources*, of this Draft EIR.

The information in this section is based on the *Cultural Resources Assessment for the Euismod Project Site* (**Appendix D**).

Cultural investigations were conducted to comply with the California Public Resources Code (PRC) Chapter 2.6, Sections 21083.2 to 21084.1, and the CEQA Guidelines, California Code of Regulations (CCR) Title 14, Chapter 3, Sections 15000 to 15387. Due to the culturally sensitive nature of the information in the report, a non-confidential version of the technical report is included as **Appendix D** to this Draft EIR (pursuant to CCR Section 15120(d)).

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. Historical resources generally refer to cultural resources that have been determined to be significant, either by eligibility for listing in State/local registers of historical resources, or by determination of a lead agency (see the definitions in the following list). Historical resources can also include areas determined to be important to Native Americans, such as sacred sites. Sacred sites are most often important to Native American groups because of the role of the location in traditional ceremonies or activities.

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 riverbeds, and in estuaries.
- **Archaeological site**: A place or places defined by the National Register of Historic Places (NRHP) 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 (for example, fragments of tools, vestiges of utilitarian, non-utilitarian objects), features (for example, remnants of walls, cooking hearths, midden deposits), and ecological evidence (for example, pollen remaining from plants that were in the area when the activities occurred). **Pre-Contact archaeological sites** generally represent the material remains of Native American groups and their activities dating to

the period before European contact (the Contact period). In some cases, pre-Contact sites may contain evidence of trade contact with Europeans. **Ethnohistoric archaeological sites** are defined as Native American settlements occupied after the arrival of European settlers in California. **Historic archaeological sites** reflect the activities of nonnative populations in the period after initial European contact (the post-Contact period, also known as 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 that are generally at least 50 years old, and may include archaeological sites, buildings, structures, objects, districts, works of art, architecture, and natural features that were important in past human events. These resources may consist of physical remains, but they may also include areas where significant human events occurred, even though evidence of the events no longer remains. Cultural resources also include places that are of traditional cultural or religious importance to social or cultural groups.
- **Ethnographic**: Relating to the study of human cultures, "ethnographic resources" represent the heritage resources 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 area's historic period.
- **Historical Resource**: This term is used for the purposes of CEQA and is defined in the CEQA Guidelines (Section 15064.5) as follows: (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 that 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 11,700 years ago at the end of the Pleistocene.
- **Isolate**: An isolated artifact or small group of artifacts that appear to reflect a single event or activity. Because isolates may lack identifiable context and may not have the potential to add important information about a region, culture, or person, they are generally not considered under CEQA to be historical or unique archaeological resources (PRC Section 21083.2 and CEQA Guidelines Section 15064.5).
- **Lithic**: Of or pertaining to stone. Specifically, in archaeology, lithic artifacts are chipped or flaked stone tools, and the stone debris resulting from their manufacture.

- **Pleistocene (Ice Age)**: An epoch in the Quaternary period of geologic history lasting from 1.8 million to 10,000 years ago. The Pleistocene was an epoch of multiple glaciations, during which continental glaciers covered nearly one-fifth of the Earth's land.

- **Pre-Contact period**: The era prior to European presence and written records, before the late 1700s. The latter 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 International Commission on Stratigraphy. 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.

- **Project Survey Area**: Relates to the cultural resources survey conducted for the project site. The Project Survey Area encompasses the approximately 122-acre project site located northwest of the intersection of 170th Street West and Rosamond Boulevard in unincorporated Kern County, California.

- **Tie-Line Survey Area:** Relates to the cultural resources survey conducted for the Southern California Edison (SCE) Whirlwind Substation tie-line corridors near the southwest intersection of 170th Street and Rosamond Boulevard in unincorporated Kern County. The Tie-Line Survey Area includes the proposed off-site electric tie-lines to the SCE Whirlwind Substation with a 100-foot buffer corridor (50 feet on either side of the tie-line). The total acreage of the Tie-Line Survey Area encompasses approximately 6.4 acres.

- **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.

- **Study Area:** Includes the Project Survey Area and the Tie-Line Survey Area plus a 1-mile buffer.
- **Tertiary Period**: The geologic period prior to the Quaternary Age. It spans from about 66 million years ago to 2.588 ± 0.005 million years ago.

- **Tribal Cultural Resource**: These are defined in AB 52 as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the CRHR or included in a local register of historical resources or determined by the lead agency, based on substantial evidence, to be significant based on the criteria in PRC Section 5024.1, subdivision (c). (PRC Section 21074 (a)(1)). Refer to Section 4.16, *Tribal Cultural Resources*, of this Draft EIR for further discussion.

- **Unique Archaeological Resource**: This term is used for the purposes of CEQA and is defined in PRC Section 21083.2(g) as an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it either contains information needed to answer important scientific research questions and that there is demonstrable public interest in that information; has a special and particular quality such as being the oldest of its type or the best available example of its type; or, is directly associated with a scientifically recognized important prehistoric or historic event or person.

4.5.2 Environmental Setting

General Setting

The Project Survey Area for cultural resources is located northwest of 170th Street West and Rosamond Boulevard in Kern County on undeveloped vacant land in the northwest portion of the Antelope Valley. It is on a southeast-facing slope near the base of the southeast side of the Tehachapi Mountain range. In the Project Survey Area, elevation ranges from approximately 2,764 feet above mean sea level toward the southeast to 2,827 feet above mean sea level toward the northwest. The ephemeral Cottonwood Creek is approximately 0.5 miles northeast of the project site, and eight ephemeral features are within the Project and Tie-Line Survey Areas.

The Mojave Desert is primarily north of the east-west trending Transverse Ranges, including the Santa Inez, Santa Monica, San Gabriel, San Bernardino, and Little San Bernardino mountains. The Tehachapi Mountains are approximately 40 miles long, where the Transverse Range connects the Coast Ranges on the west with the southern end of the Sierra Nevada on the east. The Tehachapi separates the San Joaquin Valley from the Antelope Valley portion of the Mojave Desert.

Prehistoric Setting

The project site lies within a transitional area between the coastal and interior "Desert Culture" areas. In the Southern California region, there is an almost continuous record of human occupation since ca. 12,000 years before present (BP). This has provided archaeologists with the opportunity to describe a great portion of the area's prehistory; however, when currently accepted cultural and chronological sequences for various subregions, such as the Los Angeles Basin and Antelope Valley, are compared, discrepancies become apparent.

Late Pleistocene (ca. > 12000 BP)

Over the last century, a relatively small number of archaeological finds in Southern California have been attributed to the Late Pleistocene period. Cairn burials, cleared circles, crude tools, and rock alignments in the Colorado Desert were hypothesized to date from 12000 to 50000 years BP, and controversial cut marks were reported on mammoth bones. Three Mojave Desert sites, Calico Hills, China Lake, and Manix Lake, were or are purported to have cultural materials more than 10,000 years old. The primary evidence for claims of great antiquity at these sites and others in Southern California is similarity of crude “tools” to Paleolithic tools from the Old World, relative patination and/or embeddedness of the artifacts, questionable radiocarbon dates, and equally questionable associations of “tools” and Pleistocene fauna Early Holocene (ca. 12000–7000 BP).

The Paleoindian period (ca. 12000–10000 BP) is represented in the general project vicinity by relatively few isolated and widely distributed fluted (e.g., Clovis) points, primarily from the central Mojave Desert. Early desert populations were thought to have hunted primarily large fauna along the shores of pluvial lakes and also used lacustrine resources to some extent. In the latter part of the Early Holocene (ca. 10000–7000 BP), the adaptive strategy continued in a similar fashion, consisting of generalized hunting and gathering, with a focus on wetland resources. Sites from this period, known as the Lake Mojave Period, displayed a tool kit containing crescents, knives, scrapers, gravers, and perforators, as well as temporally-diagnostic Lake Mojave and Silver Lake points. Early research efforts in the Mojave Desert described Lake Mojave Period sites on remnant Pleistocene geological surfaces adjacent to ancient lakes and streams, creating an

obvious interpretative bias toward lacustrine focus and big game hunting. More recent work has illustrated that these sites occur in a wide variety of settings, with faunal materials dominated by small and medium-sized animal remains. Early descriptions of desert lakes, running streams, more productive terrestrial vegetation, and abundant fauna are largely exaggerated, though there may have been more effective moisture than today; the current cyclic hydrologic pattern was already established by about 10000-8500 years BP. Sites located at lakeshores also may be indicative of a diverse ecological adaptation, providing access to terrestrial, shoreline, and lake ecotones.

Middle Holocene (ca. 7000–4000 BP)

The Middle Holocene period, or Altithermal, known in the U.S. Southwest/West as the Pinto Period, is viewed as a time of extensive environmental and cultural change in Southern California. Ground stone plant processing technologies appear in the archaeological record, hunting and fishing technologies diversified, and resource bases changed. This period of marked aridity was thought to have caused significant changes in settlement and subsistence practices and even abandonment of some desert areas, but more recent evidence points to considerable local, regional, and temporal variability in mid-Holocene thermal maxima throughout Southern California. In the Mojave Desert, the environment as a cause of cultural change has been de-emphasized because modern floral and faunal populations have persisted since the end of the Pleistocene. Occupation of the Mojave Desert was continuous but perhaps erratic, and the sites that do occur during this time have been identified along dry lake shores or stream beds, tending to be surface manifestations, with the exception of the Stahl Site.

Pinto projectile points and a flake industry similar to the Lake Mojave tool complex were considered diagnostic artifact types. However, more recent excavation data from the Pinto Basin and Stahl sites indicate that Pinto points may not be useful as a chronometric index except as generalized dart points ca. 10,000–2,000 BP. Based on a surface collection at the Sweetser site (CA-KER-302) in the western Mojave Desert, Glennan proposed a Rhyolite Tradition, whose assemblage includes knives, choppers, scrapers, cores, and ground stone. Also from this same time period, western Antelope Valley sites CA-KER-303 and CALAN-488 evidence trade with the coast with shell beads and steatite.

Early archaeological evidence from this period pointed to a primary focus on large mammals and little use of plant resources such as small, hard seeds. Milling stones occur infrequently at Mojave Desert sites, which have material remains typical of temporary camps and are consistent with a subsistence strategy of diversified hunting and gathering. Recent excavation data illustrate dietary diversity, probable use of hammerstones to process plant resources, and more complete processing of animals. Faunal remains from Pinto period sites include artiodactyls, reptiles, lagomorphs, and freshwater mussels. A high degree of mobility would have ensured flexibility, allowing populations to respond to seasonal climatic changes. Subsequent studies at Fort Irwin have illustrated that exploitations of peripheral areas as well as fertile areas provided a subsistence base broad enough to ensure the availability of resources during both dry and wet periods.

Late Holocene (ca. 4000 BP – contact)

During this period, technology and subsistence practices continued to diversify, and economic and population expansion, along with resource intensification, occurred in most areas of Southern California. The role of the environment with respect to cultural changes remains somewhat uncertain.

During the Middle and Late Holocene (4000–1500 BP), a minor phase called the “little pluvial” is evidenced by multiple lacustrine episodes that may have formed more often and endured longer. There may

also have been an increase in groundwater and a minor expansion of the riparian zones surrounding springs. These changes may have enabled the development of new patterns of subsistence and settlement that persisted through subsequent, drier times. Diversity in site types and artifact assemblages illustrates the exploitation of a wide range of resources within a generalized, mobile subsistence strategy. Large mammals may have continued to comprise a major portion of the diet, but plant food resources increased in importance, as evidenced by the appearance of the mortar and pestle, probably used for processing mesquite pods in the desert and acorns in the foothills. Site assemblages during this period are characterized by flake stone tools, bifaces, cores, and debitage, almost exclusively made of microcrystalline materials such as jasper and chalcedony. Artifacts typical of this period include medium to large stemmed and notched projectile points that exhibit affinities with Great Basin point types. Very few projectile points are usually recovered, and most are "spent" indicating long retention. Bifaces are generally made of local materials, although late-stage bifaces more often may be extra local materials. The large bifacial core is a principal transportable artifact form for tool and flake manufacture. Grinding tools are frequent but not an abundant site component.

The smaller Rose Spring type point, which seems to be related to Southwestern point types, appears near the end of the Late Holocene in the Mojave Desert and is believed to indicate the advent of the bow and arrow. Split-twig figurines and petroglyphs found in the central Mojave Desert are associated with the appearance of the bow and arrow and, together with pit houses and Basketmaker III ceramics found in the eastern Mojave, are indicative of influences from northern Arizona. Contact with the Pacific Coast is evidenced by the geographically widespread, yet rare, occurrence of shell beads and ornaments in the California deserts, Great Basin, and Southwest. However, some desert sites contain large numbers of beads, especially in the Coachella Valley and Anza Borrego State Park.

During the Saratoga Springs Period (1500–800 BP), following the introduction of the bow and arrow (ca. 1500 BP), technological and economic developments in Southern California persisted and expanded in the form of Anasazi influences from the east and Yuman (or Patayan) influences from the lower Colorado River Valley. By the end of the Saratoga Springs period, Anasazi influences had disappeared from the Mojave Desert and were replaced by Shoshonean connections. This western expansion of Uto-Aztecan speakers, ancestral to the Luiseño and Gabrielino, from the desert areas to the coastal areas is thought to have occurred sometime between ca. 1400 and 600 BP. Flaked stone artifact assemblages closely resemble their predecessors, but Rose Spring, Cottonwood Triangular, and Desert Side-notched arrow points appear in the cultural record. Arrow points, milling stones, mortars, pestles, ceramics, obsidian, and other important toolstones, and ornamental and ritual objects made of shell, bone, and stone are commonly found at sites dating to this period.

The Late Prehistoric Period (800 BP–contact) began with the decline of Anasazi influences and the continued diversification and expansion of Numic-speaking groups across the Great Basin, Takic-speaking groups into Southern California, and the Hopi across the Southwest. The groups that emerged are most easily discussed in terms of linguistic affinities with historical populations. Archaeological correlations are less definitive, as all of these groups shared a similar material culture and settlement pattern in the deserts and inland Southern California. Far more late-period sites are obvious in Southern California when compared to earlier periods. Although this may be due in part to sampling error or depositional processes, it appears that there was a large population influx or increase during this last period of prehistory. Resources were exploited more intensively, populations consolidated, and the range of foraging territory decreased. These changes appear to be widespread throughout California.

In the deserts, this is evidenced in part by the use of local lithic materials in the manufacture of tools that show increasing degrees of specialization. Additionally, site occupation during this period was lengthier and more regular than during previous periods. Desert subsistence continued to focus on hunting and gathering a diverse variety of animal and plant resources, including small mammals. Large late prehistoric villages located in the general project vicinity include sites in the Antelope Valley, Oro Grande, and Las Flores Ranch, along the Mojave River. However, it appears that the Antelope Valley had become a marginal area by ca. AD 1650.

Ethnographic Setting

The project site is situated at the intersection of ethnographic traditional use areas of several Native American groups, including the Kitanemuk, Tataviam, and Vanyume/Serrano. Though the Kitanemuk is the only group documented as using the area where the project is located, the ethnographically documented traditional use areas, the Tataviam and Vanyume/Serrano, are in close proximity to the southwest and east of the project site, respectively. The following discussion provides information on the Kitanemuk, Tataviam, and Vanyume/Serrano, whose traditional use areas include or are immediately adjacent to the project site. The project site was likely a location used historically by indigenous groups as a corridor between the Tehachapi and San Gabriel Mountain Ranges.

Kitanemuk

The Kitanemuk were a small group located principally in the Tehachapi Mountains and spoke a Serrano language of the Takic family. The Kitanemuk were primarily mountain dwellers, though they did range into the arid lowlands of the Antelope Valley during cooler seasons. Kitanemuk families were organized into patrilineal bands with bilocal residence patterns. Social rankings and prestige systems were well developed. Each village had an administrative elite, including a chief, a ceremonial manager, two messengers, as well as shamans, diviners, and other ritualists. Ethnographic data show no evidence of significant settlements near the Project Survey Area, though the Kitanemuk use area is thought to have extended to the immediate east of the project site. The Kitanemuk were assimilated into Missions San Fernando, San Gabriel, and possibly Ventura (San Buenaventura), and some were residents at Fort Tejon during 1850s and Tule River Reservation.

Tataviam

Very little information on the Tataviam is available. Though this group was Takic-speaking and had very similar cultural attributes to other Takic-speaking groups in the area (Kitanemuk, Serrano, Gabrielino, Cahuilla, and Cupan), the Tataviam language and other Takic languages were not mutually intelligible; this contrasts with the general similarity of these other languages. This group was termed *Alliklik*, but evidence exists that the Serrano and Vanyume called these people *Tatavi-yam*, thus *Tataviam*.

The Tataviam territory was fairly small, centered on the upper Santa Clara River east of Piru Creek and extending east to Elizabeth Lake and Gleason Mountain, north to the foothills of the Tehachapi Mountains, and west to the upper Piru Creek and upper Santa Clara River. Though the Tataviam principally used areas on the south-facing slopes of the Liebre and Sawhill Mountains, these Mountains' northern foothills and the extreme western end of Antelope Valley were also included in their territory.

Tataviam culture was very similar to the neighboring Takic-speaking Kitanemuk and Gabrielino, but also shared some similarities with the bordering Chumashan-speaking Emigdiano and Castac Chumash. Common cultural elements of the region's Takic groups, based on information documented on the

Gabrielino and Serrano/Vanyume, include small patrilineal bands with bilocal residence patterns, settling near water sources.

These groups were primarily hunters and gatherers. Principal game included deer, mountain sheep, antelope, rabbits, birds, and other small mammals. The primary staples depended on the location of each hamlet, but each supplemented their diets with various other roots, bulbs, and shoots. Technologically, these Takic-speaking groups were known to utilize shell, wood, bone, stone, and plant fibers to make a variety of implements. Ground stone tools/features included bedrock milling features, mortars, metates, and manos, while flaked stone knives, projectile points, and drills were made from local cryptocrystalline silicates, volcanic, and metavolcanics.

Trade with neighboring groups was common, and intermarriage with the Kitanemuk was not uncommon; some intermarriage with the Interior Chumash is also recorded. Conflict with adjacent groups was probably somewhat common, though usually instigated by theft, abductions, lack of ceremonial reciprocity, or trespassing. Religion focused on the creator Chingichngish. The toloache cult was central to the religion and probably male puberty rites and involved the ingestion of *Datura* accompanied by various highly formalized rituals. Sand paintings were common to the *Datura*-ingesting ceremonies, as well as female puberty rites. Historically, Takic-speaking groups cremated their dead along with formal funerary rites, and it is presumed that the Tataviam did the same. Records show that almost all Tataviam had been baptized by 1810 and, unfortunately, by 1916 the last Tataviam speaker had died.

Vanyume/Serrano

Spanish explorers to the mountainous areas east of Los Angeles provided the name “Serrano” (meaning ‘mountaineer’ or ‘highlander’) to the indigenous people they encountered in this region of the Transverse Ranges. However, a group related to the Serrano lived north of the mountainous region for which the Serrano name is derived. This related group, known as the Vanyume, occupied a significant portion of the western Mojave Desert from the San Bernardino Mountains east of the Cajon Pass northward and beyond the Mojave River. The eastern boundary extended to nearly the Providence Mountains.

The name Serrano is regularly used to describe a group of languages in the Takic family of the Uto-Aztecan Stock. While little linguistic information is available on the Vanyume, it is understood that the Vanyume spoke a dialect of the Serrano language. The Serrano were organized into autonomous, localized lineages occupying specific territories. Because settlement was determined by the availability of water, most Vanyume lived in small villages situated near water sources, principally the Mojave River. Individual family dwellings consisted of circular, domed structures built of willow frames that were covered in thatched tule.

The Serrano and Vanyume were primarily hunters and gatherers. Principal game included deer, mountain sheep, antelope, rabbits, birds, and other small mammals. The primary staples depended on the location of each hamlet, but each supplemented their diets with various other roots, bulbs, and shoots. Early travelers like Jedediah Smith observed that the Vanyume processed acorns and pine nuts to make an edible “mush.” The presence of acorns and pine nuts suggests that an active trade network or gathering area was present to have such staples along the Mojave River at the time of his crossing in 1826. Technologically, they were known to utilize shell, wood, bone, stone, and plant fibers to make a variety of implements.

Historic Context

European settlement of Southern California began with the founding of Mission San Diego de Alcalá in 1769, and the first known European entry in the Mojave/Antelope Valley area took place in 1772. That encounter was a raid led by Captain Pedro Fages, in pursuit of Spanish army deserters, into the San Joaquin Valley. Fages passed Hughes Lake while crossing the mountains. Four years later, Friar Francisco Garcés reportedly followed a similar route into the Antelope Valley. In the 1840s and 1850s, other expeditions passed through the southern Mojave Desert and Antelope Valley, primarily to conduct topographic surveys. No governmental land grants were issued, and no established trails or roads are documented from this time period.

The first stimulus for the development and exploitation of resources in the Antelope Valley occurred in 1876. At that time, only four roads crossed the Antelope Valley: Soledad Road, Mojave Road, the San Francisquito Canyon Road, and the Fort Tejon (now Barrel Springs) Road. In 1876, the Southern Pacific Railroad completed the San Joaquin Valley line from Oakland to Los Angeles. The line from the Los Angeles basin entered the Antelope Valley by way of Soledad Pass, located just south of present-day Palmdale, and met the tracks from the north at Lang Station, in the center of the Antelope Valley. After completion of the railroad, Mojave became a terminus for miners and borax shippers to transport their goods out of the valley. In 1884, the Twenty Mule Team of borax haulers was established in Mojave. Stages departed every other day with passengers, mail, and mining supplies to Darwin, Cerro Gordo, Lone Pine, and Independence; these teams carried bullion on the return trips. In 1882 and 1883, the Southern Pacific extended the rail line from Mojave to Needles. In the next year, 1884, Mojave became a junction point for the Atlantic & Pacific Railroad Company, which purchased the Mojave/Needles trackage.

A devastating drought in the 1890s brought homesteading and agriculture in the Antelope Valley to a halt and small communities were virtually abandoned. Following the drought, innovations in the delivery of water revived the Antelope Valley's agricultural industries. It came to be known as the "land of almonds and perpetual sunshine" and the greatest almond and alfalfa-growing section of Southern California.

In 1913, the completion of the Los Angeles Aqueduct from the Owens Valley in the Eastern Sierra to the City of Los Angeles provided the impetus for the development of the rich agricultural lands in the Antelope Valley. After the opening of the aqueduct, irrigated lands in the Valley increased from 5,000 acres in 1910 to 11,900 acres in 1919. This boosted agricultural productivity, primarily of pear, apple, nut, alfalfa, and poultry, and the human population increased. By 1920, large-scale cultivation of alfalfa made it the Antelope Valley's major crop. Pears were another booming crop, second only to alfalfa. The Great Depression effectively brought a halt to this thriving industry. Blight struck some of the pear orchards in the 1930s, and when banks could no longer extend credit to ranchers, many lost their property and left the area.

Community of Rosamond

Rosamond was originally founded by the Southern Pacific Railroad Company and is said to be named for the daughter of a railroad official. The first post office opened in the area in 1885 under the proprietorship of David Bayles and was occasionally referred to as Baylesville or Bayles Station. Industries in the area during the late 19th century included railroad operations and gold mining, including the Tropico Mine and other previously mentioned mines in the area. Agricultural activities supported the area during the early 20th century, utilizing the abundant natural groundwater available at the time. Rosamond's first schoolhouse was built in 1900 by the postmaster Charles Graves, an African-American settler to the area. World War II and the development of nearby Muroc Air Base (now Edwards Air Force Base) brought revenue to the area,

leading to the installation of streetlights and a water plant. Later industries included a carbon processing plant, recycling operations, and continued farming. The Rosamond town council was incorporated in 1995. Today, the small community of Rosamond has a population of just over 14,000, many of whom are aerospace employees working at Edwards Air Force Base and other nearby employers.

4.5.3 Existing Cultural Resources

Methods Used to Identify Known Cultural Resources

To evaluate the project's potential effects on significant cultural resources, a cultural resources assessment was conducted for the project, which included records searches, historic research, and pedestrian surveys (**Appendix D**). The methodology and results of these assessments are summarized below.

In accordance with the CEQA, cultural (historical and unique archaeological resources) and tribal cultural resources were identified using the following methods:

- A California Historical Resources Information System (CHRIS) records search via the Southern San Joaquin Valley Information Center (SSJVIC) housed at the California State University, Bakersfield, to identify previously recorded cultural resources and prior cultural resources investigations within and adjacent to the Study Area;
- Properties listed in or determined eligible for listing in the NRHP and CRHR, the list of California Historical Landmarks, and the California Points of Historical Interest were examined to ascertain the presence of designated, evaluated, or historic-era resources in the Survey Areas;
- Background research and review of historic maps and aerial photography, appropriate U.S. Geological Survey (USGS) quadrangles on which archaeological sites are plotted, archaeological site records, and data from previous surveys and research reports;
- A Sacred Lands File search conducted by the California Native American Heritage Commission (NAHC);
- Intensive-level pedestrian cultural resource field surveys of the Survey Areas; and
- Government-to-government tribal consultation conducted pursuant to AB 52, as discussed in **Section 4.5.4,** *Regulatory Setting*, and detailed in **Section 4.16,** *Tribal Cultural Resources*, of this Draft EIR.

Southern San Joaquin Valley Information Center Records Search

On January 30, 2024, a California Historical Resources Information System records search was initiated via a data request from the SSJVIC housed at California State University, Bakersfield. Records search results were received on February 12, 2024 (**Appendix D**). The record searches included a review of all previous cultural resource studies, recorded archaeological resources, and built-environment resources within the Survey Areas.

The SSJVIC records search indicated that there are 42 previously prepared cultural resources studies within the Study Area. However, 14 of these studies were regional overview studies that incorporated ethnographic, historical, and geological investigations and did not consist of pedestrian field surveys of the Project Survey Area. The prior field surveys effectively covered approximately 10 percent of the Project

Survey Area, leaving the remaining approximately 90 percent unsurveyed for cultural resources. Additionally, all but one of the studies were completed more than 10 years ago; thus, the majority of the Project Survey Area required a new pedestrian cultural resources survey.

The results of the records search associated with the Tie-Line Survey Area indicate that the area was previously surveyed for cultural resources between 2006 to 2022 in support of various projects including SCE's Tehachapi Renewable Transmission Project (TRTP), the Solar Ranch Project, and the Bullhead Solar Project.

As a result of these prior studies, a total of 59 cultural resources have been recorded within the Study Area, with four located within the Project Survey Area and Tie-Line Survey Area. Of the 59 previously recorded cultural resources, 11 are precontact lithic scatters and isolates, 44 are historic period refuse scatters and isolates, two are segments of historic SCE transmission lines and associated access roads, and two are multi-component sites containing historic period refuse scatters and precontact cultural materials.

Historical Review

Historic maps and aerial photography, including the Bureau of Land Management General Land Office Maps, USGS quadrangle maps, Google Earth, and NETRonline historic aerial imagery, were reviewed for historic properties or features that may have once been located within the Study Area.

Historical sources show that in the 1850s, no human-made features were observed within or adjacent to the Study Area. Historic topographic maps from 1917 show the forerunners of 170th Street West along the eastern boundary and a road traversing the Project Survey Area. Between 1943 and 1949, an Edison Company Transmission line was indicated west of the Project Survey Area, and the vicinity continued to develop with additional roadways. No structures were present within the Survey Areas during this timeframe. Historic aerial imagery from 1948 and 2022 shows the land within the Survey Areas as open and undeveloped to the present day, except for the SCE Whirlwind Substation and a high-voltage transmission line constructed beginning in 2010.

Native American Heritage Commission Sacred Land File Search

The California NAHC responded to the Sacred Lands File search request on February 21, 2024, stating that no known Native American resources were listed within or near the Study Area (**Appendix D**). See **Section 4.16**, *Tribal Cultural Resources,* for Kern County coordination efforts and results under AB 52.

Pedestrian Survey

In November 2024, an intensive-level pedestrian survey of the Project Survey Area was conducted. In April 2026, an intensive-level pedestrian survey of the Tie-Line Survey Area was conducted. During the intensive-level surveys, archaeologists walked parallel east-west, 15-meter transects across the entire Survey Areas. In this way, the ground surface was examined for the presence of prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), historical artifacts (e.g., metal, glass, ceramics), sediment discoloration that might indicate the presence of a cultural midden, depressions, and other features that might indicate the former presence of structures or buildings (e.g., post holes, foundations).

Following the pedestrian surveys, State of California Department of Parks and Recreation (DPR) 523 Series forms were prepared for all newly recorded and updated archaeological resources, including the primary record, archaeological site record, location map, and sketch map forms. DPR forms for all newly recorded and updated archaeological resources have been submitted to the SSJVIC, which will issue primary numbers for all newly recorded resources and trinomials for all newly recorded archaeological sites.

Previously Recorded Cultural Resources

A total of four cultural resources have been previously recorded within the Project and Tie-Line Survey Areas. These resources are summarized in **Table 4.5-1**, *Previously Recorded Cultural Resources Documented in Study Area,* and described in more detail below.

TABLE 4.5-1: PREVIOUSLY RECORDED CULTURAL RESOURCES DOCUMENTED WITHIN SURVEY AREAS

Primary Number	Trinomial	Time Period	Site Type	Description
P-15-012727	CA-KER-007185H	Historic	Refuse scatter	Historic period surface refuse scatter dating to a post-1935 period of use. The site measures approximately 300 by 360 feet and is in the southwestern portion of the Project Survey Area.
P-15-015698	CA-KER-008666H	Historic	Refuse scatter	Historic period surface refuse scatter dating to the latter half of the 20th century. The site measures approximately 322 by 295 feet and is in the southeast portion of the Project Survey Area.
P-15-020596	N/A	Historic	Access Road to SCE Big Creek Hydroelectric System Vincent 220kV Transmission Line	An access road initially constructed in 1925-1928 and first delineated on the 1955 Arvin USGS Topographic Quadrangle Map. The Access Road spans approximately 224 miles from Big Creek Powerhouse #3 in North Fork, California, SCE Springville Substation near Strathmore, SCE Magunden Substation in Bakersfield, and SCE Antelope Substation in Lancaster, California.
P-15-012793	CA-KER-007214H	Historic	Refuse scatter	Large historic-era refuse scatter, including cans, glass fragments, posts, a square, well-like feature, and a shallow pit feature with a raised berm.

Source: Cultural Resources Assessment (**Appendix D**).

CA-KER-7185H/P-15-012727

The first cultural resource to be recorded within the Project Survey Area was in 2002 and consisted of a historic period surface refuse scatter (CA-KER-7185H/P-15-012727) measuring approximately 300 by 360 feet, located in the southwestern portion of the Project Survey Area. Cultural material identified included two church key-opened beer cans (post 1935), one key-wound external friction coffee can, 12 brown bottle glass fragments, one can with “Punch Here” embossed on the end (1935-1945), seven pieces of cement, one windshield fragment, one car spring, one tin insecticide atomizer with rolled seams, and several redeposited milled wood fragments. Based on the diagnostic artifacts, the site was dated to a post-1935 period of use, and disturbances to the site included mechanized equipment that has redistributed some of the artifacts. The site was evaluated for NRHP eligibility and subsequently recommended ineligible for the NRHP under any criterion.

CA-KER-8666H/P-15-015698

The second resource to be recorded within the Project Survey Area was in 2012 and consisted of a historic period surface refuse scatter (CA-KER-8666H/P-15-015698) dating to the latter half of the 20th century. Materials observed included a number of pull-tab metal cans, spam cans, glass shards, clay pigeon fragments, shotgun shells, and tiles mixed in with modern debris. The site measures approximately 322 by 295 feet and is located in the southeast portion of the Project Survey Area. Due to the cultural material being of recent age (dating to the latter half of the 20th century), site CA-KER-8666H was recommended as not eligible for listing on the CRHR under any criterion.

P-15-020596

Access Road (P-15-020596) transects the Project Survey Area to service the SCE Big Creek Hydroelectric System Vincent 220-kilovolt (kV) Transmission Line. The access road was initially constructed in 1925-1928 and was first delineated on the 1955 Arvin USGS Topographic Quadrangle Map. The Access Road spans approximately 224 miles from Big Creek Powerhouse #3 in North Fork, California, SCE Springville Substation near Strathmore, SCE Magunden Substation in Bakersfield, and SCE Antelope Substation in Lancaster, California.

The Access Road is an unpaved 15-foot-wide dirt road that winds through the Sierra Nevada Mountains and Tehachapi Mountains. Today, the Access Road supports the Vincent 220kV Transmission Line, Magunden-Mesa Transmission Line, and portions of the Correction-Cummings-Kern River #1 Transmission Line. Resource P-15-020596 was evaluated for NRHP/CRHR eligibility in 2020 and determined ineligible for the NRHP/CRHR through the Section 106 process.

CA-KER-7214H/P-15-012793

The Tie-Line Survey Area was previously surveyed for cultural resources in 2010 for SCE's TRTP and Whirlwind Substation. As a result of that survey, one large historic-era refuse scatter (CA-KER-7214H/P-15-012793) was identified and recorded. Site CA-KER-7214H contained approximately 150 cans and several discrete concentrations of colorless (post-1920s) glass fragments dispersed throughout an open alluvial plain within a creosote scrub woodland plant community. At least three 4- by 6-inch posts were observed; a square, well-like feature and a shallow pit feature with a raised berm were also present.

Pacific Legacy updated the site record in March 2010, at which time the site boundaries were substantially expanded. Pacific Legacy completed an assessment of the site that included the excavation of a series of shovel test units, which revealed no subsurface deposits, and historic research failed to associate the site with known individuals or events. Based on the site assessment, Pacific Legacy recommended that site CA-KER-7214H is ineligible for listing on the NRHP or CRHR.

In addition, ICF revisited site CA-KER-7214H during a survey in support of the Bullhead Solar Project and observed that the southern third of the site had been destroyed by the installation of the SCE Whirlwind Substation. The northern portion of the site appeared to remain in similar condition as in 2010. Later in 2022, ICF completed another test evaluation of site CA-KER-7214H, consisting of two shovel test pits in the northern and central portions of the site. The shovel test pits were excavated to a depth of 50 centimeters and were negative for cultural resources, consistent with Pacific Legacy's 2010 testing results. The soil matrix was a light-brown silty loam with light gravel throughout the levels. ICF concluded that the site may be the result of multiple dumping episodes during the mid-20th century and that data obtained from this site's recordation can address very little (if anything) regarding the questions because there is no contextual information associated with the refuse dump to link the artifacts to a particular individual or group.

Consequently, the site does not meet any of the four CRHR criteria and is therefore not recommended for CRHR-listing as an individual resource or as a contributor to a potential archaeological district.

Newly Identified Cultural Resources

During the field surveys, 22 cultural resources were identified and recorded within the Project Survey Area, and no new resources were identified within the Tie-Line Survey Area. These 22 resources consist of seven newly identified archaeological sites and 15 newly identified isolates. All of the archaeological sites are comprised exclusively of historic period refuse scatters dating to the late-19th to mid- to late-20th centuries. The isolates consist of 13 historic period artifacts and two precontact artifacts identified throughout the Project Survey Area without any associated features.

Traditionally, isolated artifacts or features are not considered eligible for the CRHR because recordation of isolated artifacts and features has exhausted their research potential. As such, the isolated cultural materials identified during this survey were not considered for their potential to meet the eligibility requirements of the CRHR, in accordance with Section 15064.5(a)(2) of the State CEQA Guidelines, and found not to qualify as historical resources for the purposes of CEQA. The current evaluation has assigned a California Office of Historic Preservation 6Z status code to the isolates, indicating they are ineligible for listing on the NRHP, CRHP, or local designation and no further action is recommended for these resources. California DPR forms have been completed for all isolated artifacts identified during this project. **Table 4.5-2**, *Newly Identified Archaeological Resources* and **Table 4.5-3**, *Newly Identified Isolate Resources,* list and describe these new archaeological sites and isolated artifacts.

TABLE 4.5-2: NEWLY IDENTIFIED ARCHAEOLOGICAL RESOURCES

Primary Number	Trinomial	Time Period	Site Type	Description
P-15-022564/SITE-H-001	CA-KER-11928H	Historic	Refuse scatter	Sparse historic-era refuse scatter measuring approximately 175 by 95 feet
P-15-022565/SITE-H-003	CA-KER-11929H	Historic	Refuse scatter	Sparse historic-era refuse scatter measuring approximately 432 by 240 feet
P-15-022566/SITE-H-006	CA-KER-11930H	Historic	Refuse scatter	Small sparse historic-era refuse scatter measuring approximately 40 by 27 feet
P-15-022567/SITE-H-007	CA-KER-11931H	Historic	Refuse scatter	Small sparse historic-era refuse scatter measuring approximately 70 by 37 feet
P-15-022568/SITE-H-011	CA-KER-11932H	Historic	Refuse scatter	Sparse historic-era refuse scatter measuring approximately 188 by 110 feet
P-15-022569/SITE-H-013	CA-KER-11933H	Historic	Refuse scatter	Small sparse historic-era refuse scatter measuring approximately 74 by 52 feet
P-15-022570/SITE-H-014	CA-KER-11934H	Historic	Refuse scatter	Historic-era refuse scatter measuring approximately 120 by 68 feet

Source: Cultural Resources Assessment (**Appendix D**).

TABLE 4.5-3: NEWLY RECORDED ISOLATE RESOURCES

Temporary Isolate Number	Time Period	Description
P-15-022549/ISO-H-004	Historic	Bimetal pull tab can
P-15-022550/ISO-H-005	Historic	Crushed double church key can and Dr Pepper glass bottle fragments
P-15-022551/ISO-H-006	Historic	Aluminum beer can teardrop pop-top
P-15-022552/ISO-H-007	Historic	Aluminum pull tab beverage can
P-15-022553/ISO-H-014	Historic	Piels Real Draft Beer "New Aluminum" can “Lift Ring Pull Open"
P-15-022554/ISO-H-015	Historic	Bimetal pop-top beverage can. crimped side seam
P-15-022555/ISO-H-018	Historic	O. Ames Crucible Steel 1896 style riveted shovel
P-15-022556/ISO-H-020	Historic	Crushed matchstick milk can
P-15-022557/ISO-H-021	Historic	Double church key opened beverage can
P-15-022558/ISO-H-022	Historic	Amethyst glass neck and opening, molded side seams, cork or wax closure and Green 7 up bottle neck and rim with lithography
P-15-022559/ISO-H-025	Historic	Cragmont COLA glass bottle fragments
P-15-022560/ISO-H-026	Historic	Crushed small matchstick solder dot milk can
P-15-022561/ISO-H-027	Historic	White milk class rim and body fragment of tall container
P-15-022562/ISO-L-001	Pre-Contact	Reddish (rhyolite) Tertiary flake
P-15-022563/ISO-L-002	Pre-Contact	Quartz secondary flake

Source: Cultural Resources Assessment (**Appendix D**).

Eligibility Evaluation and Recommendations

A cultural resources assessment was conducted for the project in accordance with CEQA to identify and evaluate cultural resources that could be affected by ground-disturbing activities.

Newly Identified Cultural Resources

As previously stated, the pedestrian survey of the approximately Project Survey Area identified a total of 22 newly identified cultural resources, including seven archaeological sites and 15 isolates. These resources all appear to represent the accumulation of debris through casual, unregulated dumping and disposal, as well as from prior construction projects in the area. The resources likely reflect a secondary deposit from nearby access roads or were transported to be used for recreational target practice, which is common in the area. The refuse scatters appear to be surface deposits, without any distinct features, and there is no indication that refuse was intentionally buried at any of these locations. The artifact assemblages are consistent with other historic refuse scatters and random dumping sites throughout the region. The contents of each of these sites are generic, commonly found in the area, and lack any association with discrete historic populations. Disturbances were noted at each site and include water and wind erosion, as well as modern use of the area for recreation, as evidenced by several off-highway vehicle tracks and the presence of modern trash. Few meaningful conclusions can be drawn from further study of any of these refuse scatters.

These archaeological sites were evaluated under the CRHR criteria and determined not eligible for listing. Specifically, these resources are not associated with events that have made a significant contribution to the broad pattern of local or regional history or the cultural heritage of California (Criterion 1). No individuals important to local, California, or national history were found to be specifically associated with any of these resources (Criterion 2). The lack of distinct features or other associated artifacts and the presence of modern refuse suggest that it has been used over time, most likely in multiple, unrelated depositional events, and presents a mixed context and therefore does not represent any unusual or unique features that would make the site distinctive (Criterion 3). These historic surface refuse scatters do not contain sufficient information to contribute to significant questions in historical archaeology, and there is a low likelihood of buried archaeological deposits at these sites (Criterion 4); as such, they do not represent a unique archaeological resource. The research potential at the resource locations has been exhausted, and few meaningful conclusions can be drawn from further study. Consequently, it is recommended that the resources not be eligible for listing on the CRHR. Recordation of these sites has been completed, and DPR forms were filed with the SSJVIC.

Previously Recorded Cultural Resources

There were four previously recorded cultural resources identified within the Survey Areas. Three resources (CA-KER-7185H, CA-KER-7214H, CA-KER-8666H) have been previously evaluated for NRHP/CRHR eligibility and subsequently recommended as ineligible for the NRHP/CRHR. The fourth resource (P-15-020596) was found ineligible for the NRHP/CRHR through the Section 106 process.

The two previously recorded historic period refuse scatters (CA-KER-7185H and CA-KER-8666H) could not be relocated during the pedestrian survey associated with the Project Survey Area. Natural and mechanical disturbances were observed at these locations, which most likely resulted in these sites not being relocated due to the ground-disturbing processes. The previously recorded Access Road (P-15-020596) was noted and remains intact as previously recorded in 2020, and no modifications or changes were observed. Consequently, it is recommended that the sites retain their prior eligibility status, which was determined to be not eligible for listing on the NRHP or CRHR.

The location of site CA-KER-7214H was revisited during the pedestrian survey associated with the Tie-line Survey Area. During the survey, it was confirmed that the southern half of the site had been destroyed by the construction of the SCE Whirlwind Substation, as mentioned during the prior survey completed in 2022. Recent disturbances noted within the site include water and wind erosion areas as observed by alluvial elements in the drainages, as well as modern use of the area for recreation, as evidenced by several off-highway vehicle and motorcycle tracks and the presence of modern trash. In addition, continuing maintenance, including the placement of gravel for the existing SCE transmission line that traverses the site, and a berm for the substation near the southern portion of the site, has heavily impacted the site. Due to these disturbances, one historic sanitary can with a maker's mark and two other crushed historic cans were observed on the surface. These natural and mechanical disturbances observed within the site most likely resulted in altering the surface appearance of the site, resulting in most of the surficial artifacts not being relocated.

CA-KER-7214H had been previously evaluated and determined by the California State Office of Historic Preservation as not eligible for the NRHP/CRHR in 2010 and 2022, and thus was not re-evaluated. Due to the prior archaeological investigations and the continuing disturbances to the area, it is recommended that site CA-KER-7214H retain its status as ineligible for listing in the NRHP/CRHR. No further NRHP/CRHR assessments and mitigation are recommended for resources CA-KER-7214H, unless additional features or cultural materials are identified during construction activities.

Potential for Unknown Buried Cultural Resources

Intensive-level pedestrian surveys were conducted for the Project Survey Area and Tie-Line Survey Area. Ground surface visibility was generally good to excellent, averaging approximately 80 percent throughout the Survey Areas. Although some vegetation was present, archaeologists generally had very good visual access to the Survey Areas. Soils observed consisted of loose sand, silt, gravel, and decomposed granite. Metamorphic rocks like schist, gneiss, and quartzite were present as gravel, while larger boulders were mostly granitic. An abundance of quartz-rich gravel was also present. Gravel piles were observed in the western half of the Project Survey Area and often in clusters, most likely resulting from ongoing unregulated dumping. Several dry creek beds trending southeast were also observed in this area. Because historic-era resources identified within and near the Survey Areas consist exclusively of surface sites, it is unlikely that intentionally buried deposits associated with identified historic archaeological sites are present.

The project site lies within the northwest edge of the Antelope Valley in the western Mojave Desert and is predominantly underlain by modern alluvial fan deposits of Holocene age (map unit Qf). Portions of the project site, including the SCE Whirlwind Substation and the eastern tie-line corridor, are underlain by modern alluvial fan deposits of Holocene age. Areas near the west and northwest edge of the project site and the western tie-line corridor are younger alluvial fan deposits of Holocene to late Pleistocene age (map unit Qyf). There is also a narrow area of Alluvial Wash Deposits of late Holocene age (map unit Qw) near the western portion of the project site.

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 the younger (Holocene) alluvial surface deposits. 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 have the potential to preserve archaeological resources if the area had been occupied or settled by humans before the subsequent sediment deposition. 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 the Study Areas have been subject to Holocene alluvial deposits during periods of known human occupation in the region, there is a possibility that prehistoric archaeological deposits that once existed on the surface may now be buried. As a result, buried archaeological resources may be encountered during project-related ground-disturbing activities.

4.5.4 Regulatory Setting

Federal

National Historic Preservation Act of 1966

Enacted in 1966, the National Historic Preservation Act (NHPA) declared a national policy of historic preservation and instituted a multifaceted program which the Secretary of the Interior administers to encourage the achievement of preservation goals at the federal, state, and local levels. The NHPA authorized the expansion and maintenance of the NRHP, established the position of State historic preservation officer and provided for the designation of State Review Boards, set up a mechanism to certify

local governments to carry out the purposes of the NHPA, assisted Native American tribes to preserve their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP).

Section 106 of the NHPA states that federal agencies with direct or indirect jurisdiction over federally funded, assisted, or licensed undertakings must consider the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the NRHP and that the ACHP must be afforded an opportunity to comment, through a process outlined in the ACHP regulations at 36 CFR Part 800, on such undertakings.

National Register of Historic Places

As presented in 36 CFR 60.2, the NRHP was established by the NHPA of 1966 as "an authoritative guide to be used by federal, State, and local governments, private groups, and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment."

The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- **Criterion A**: It is associated with events that have made a significant contribution to the broad patterns of our history.
- **Criterion B**: It is associated with the lives of persons who are significant in our past.
- **Criterion C**: It embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.
- **Criterion D:** It has yielded, or may be likely to yield, information important in prehistory or history.

To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. Cemeteries, birthplaces, or graves of historic figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; and properties that are primarily commemorative are not considered eligible for the NRHP unless they satisfy certain conditions. In general, a resource must be at least 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

State

California Register of Historical Resources

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 to local, California or national history.
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 to the history or prehistory of the local area, California, or the nation.

Furthermore, under PRC 5024.1 and Title 14 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 that existed during the resources time of significance, 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. Prehistoric sites may be considered significant and important to a tribe and require tribal consultation and tribal cultural knowledge to determine eligibility.

If an archaeological resource is found eligible for listing in the CRHR, then it is considered under CEQA an historical resource. Unevaluated sites are potentially eligible and therefore treated the same as eligible properties.

California Historical Landmarks

California Historical Landmarks (CHLs) are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value and that have been determined to have Statewide historical significance by meeting at least one of the criteria listed below. The resource also must be approved for designation by the County Board of Supervisors (or the city or town council in whose jurisdiction it is located); be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks. The specific standards now in use were first applied in the designation of CHL #770. CHLs #770 and above are automatically listed in the CRHR.

To be eligible for designation as a landmark, a resource must meet at least one of the following criteria:

1. It is the first, last, only, or most significant of its type in the State or within a large geographic region (Northern, Central, or Southern California);
2. It is associated with an individual or group having a profound influence on the history of California; or
3. It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

California Points of Historical Interest

California points of historical interest (PHI) are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. PHI designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR. No historic resource may be designated as both a landmark and a point. If a point is later granted status as a landmark, the point designation will be retired. In practice, the point designation program is most often used in localities that do not have a locally enacted cultural heritage or preservation ordinance.

To be eligible for designation as a PHI, a resource must meet at least one of the following criteria:

1. It is the first, last, only, or most significant of its type within the local geographic region (city or county);
2. It is associated with an individual or group having a profound influence on the history of the local area; or
3. It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State and is codified at PRC 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 unique archaeological resources.

Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. The CEQA Guidelines (Title 14 CCR Section 15064.5) recognize that an historical resource includes the following: (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) unless the preponderance of evidence demonstrates that it is not historically or culturally significant; 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 is not listed in, or determined to be eligible for listing in, the CRHR, not

included in a local register of historical resources (pursuant to section 5020.1(k) of the PRC), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the PRC) does not preclude 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 addresses unique archaeological resources. 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 or left in an undisturbed state (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 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 Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural, and Sacred Sites Act (the Act) applies to both State and private lands. The Act requires that, upon discovery of human remains, construction or excavation activity must cease and the County coroner be notified. If the remains are Native American, the coroner

must notify the NAHC. The NAHC will then identify and notify a most likely descendant. The Act stipulates the procedures that the most likely descendant may follow for treating or disposing of the remains and associated grave goods.

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

The California Health and Safety Code, Section 7050.5, declares that, in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbance must cease, 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.

California Public Resources Code, Section 5097.5

California PRC Section 5097 specifies the procedures to be followed in the event of an unexpected discovery of human remains on non-federal land. The disposition of Native American remains falls within the jurisdiction of the NAHC. Section 5097.5 of the Code states:

> *No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.*

As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the State or any city, county, district, authority, public corporation, or any agency thereof.

Assembly Bill 52

Under CEQA, Assembly Bill 52 requires a lead agency to consult with any California Native American Tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. Consultations must include discussing the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the Tribe. That consultation must

take place prior to the determination of whether a negative declaration, mitigated negative declaration, or EIR is required for a project. Section 4.16, *Tribal Cultural Resources*, of this EIR discusses the effort made to contact the Tribes that may have an interest in the project, in compliance with Assembly Bill 52.

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to cultural resources. The goals, policies, and implementation measures in the Kern County General Plan (KCGP) and the Willow Springs Specific Plan related to cultural resources that are applicable to the project are provided below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for cultural resources applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

Chapter 1.10.3. Archaeological, Paleontological, Cultural, and Historical Preservation.

Policies

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 entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). 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 KCGP. Its goals, policies, and standards

are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for cultural resources applicable to the project are provided below. The Willow Springs Specific Plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated in **Chapter 2**, *Introduction*, all goals, policies, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Cultural Resources

Goals

Goal 1: To preserve cultural resources contained on sensitive sites located within the Willow Springs Specific Plan area.

Policies

Policy 2: Recorded archaeological sites shall be subjected to individual studies prior to development.

Implementation Measures

Measure 1: Prior to issuance of grading permits, archaeological investigations shall be required of specific properties proposed for development. This approach would 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, may be found within the Study Area and would require more intensive investigation and more complete preservation.

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.

4.5.5 Impacts and Mitigation Measures

Methodology

Potential impacts to cultural resources could result from ground-disturbing activities associated with the project. Ground-disturbing activities include project-related excavation, grading, trenching, vegetation clearance, the operation of heavy equipment, or other surface and subsurface disturbance. These activities

could damage, destroy, or alter unknown surficial or buried cultural resources, including prehistoric or historical-period archaeological resources, historical-period structures, or human remains.

To evaluate the potential for the project to result in a significant impact on one or more historical resources as defined by CEQA, a cultural resources assessment of the Study Area was conducted, which included literature reviews, a Sacred Lands File search, cultural resources surveys, and evaluation of resources for inclusion in the CRHR.

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 does any of the following:

a. Causes a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.4.

b. Causes a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines Section 15064.4.

c. Disturbs 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 are addressed in **Section 4.16**, *Tribal Cultural Resources*, of this Draft EIR.

Project Impacts

Impact 4.5-1: The project would cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.5.

The records search indicated four previously recorded cultural resources within the Project Survey Area and Tie-Line Survey Area, and 59 within the Study Area. Of the four previously recorded cultural resources within the Survey Areas, three consist of historic-era refuse scatter, while the fourth is a historic-era access road. As previously discussed, the refuse scatter lacks archaeological context and does not provide sufficient information to be considered a significant cultural resource.

Further, during the field survey efforts, the two previously recorded historic period refuse scatters (CA-KER-7185H and CA-KER-8666H) could not be relocated. The resources could not be found due to natural and mechanical ground disturbances that were observed at these locations. The previously recorded access road (P-15-020596) remains intact as previously recorded in 2020, and no modifications or changes were observed. The location of site CA-KER-7214H was revisited, and it was confirmed that the southern half of the site had been destroyed by the construction of the SCE Whirlwind Substation. Additional disturbances, such as water and wind erosion areas, recreational uses, and the maintenance of the SCE transmission line, continue to disturb the site. Consequently, it is recommended that these four historic resources retain their prior eligibility status of ineligible for NRHP/CRHR listing.

A total of 22 newly identified cultural resources were recorded within the Project Survey Area. These resources consist of seven newly identified archaeological sites and 15 newly identified isolates. All seven of the archaeological sites comprise historic-period refuse scatters dating to the late-19th to mid- to late-20th centuries. These historic refuse scatters are very common throughout the region, and nothing distinguishes these historic sites from any other of the vast majority of similar sites found across the Antelope Valley. In addition, recreational activities have heavily disturbed and compromised the integrity of these sites. These archaeological sites were evaluated under the CRHR criteria and determined not eligible for listing on the CRHR. The refuse scatters appear to be surface deposits, without any distinct features, and there is no indication that refuse was intentionally buried at any of these locations. The contents of each of these sites are generic, commonly found in the area, and lack any association with discrete historic populations. The 15 isolates date to the precontact and historic periods and lack context and data potential and are, by definition, not eligible for inclusion in the CRHR. California DPR 523 Series forms were prepared for all 22 newly identified cultural resources. The newly identified cultural resources contain no further information important to history or prehistory beyond their recording, and all are recommended as not eligible for listing in the CRHR.

There are no known cultural resources within or adjacent to the project site meeting the definition of historical resource as defined in CEQA Guidelines Section 15064.4. Consequently, the impacts on known historical resources resulting from the project would be less than significant. However, ground-disturbing activities during construction could potentially unearth previously undiscovered archaeological materials that may qualify as historical resources. If such materials are encountered during the construction, operation, and/or decommissioning of the project, their alteration, damage, or destruction would lead to a potentially significant impact. Therefore, **MM 4.5-1** through **MM 4.5-4** would be implemented to address potentially significant impacts on historical resources. These mitigation measures require the development of a cultural resource Unanticipated Discovery Plan (UDP); cultural resources sensitivity training for construction workers; a formal cultural resources treatment plan (if necessary); archaeological and Native American monitoring during construction; and appropriate treatment of unearthed archaeological resources during construction. With the implementation of these mitigation measures, the project would not cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.5. Thus, impacts would be less than significant.

SCE Whirlwind Substation Upgrades

The project includes two 220-kV overhead tie-lines to the SCE Whirlwind Substation located on the adjacent parcels to the south of the project site. SCE's work activities outside of its Whirlwind Substation, including tie-line access clearing, installing telecommunications lines and tie-line support poles or towers, stringing overhead conductors, and operating and maintaining the tie-lines to the Point of Change of Ownerships, would disturb all land within a 100-foot-wide corridor centered on each of the offsite tie-line alignments. Within the existing SCE Whirlwind Substation, each tie-line would require the installation of facilities for a new 220-kV switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3**, *Project Description*.

One large historic-era refuse scatter (CA-KER-7214H/P-15-012793) was identified and recorded within the Tie-Line Survey Area. The site included approximately 150 cans and several glass fragments. The prior assessment of the site included a series of shovel test units excavated, which revealed no subsurface deposits, and historic research failed to associate the site with known individuals or events. Based on the site assessment, it was recommended that the site (CA-KER-7214H) is ineligible for listing on the NRHP

or CRHR. The site was revisited in 2022 with a conclusion that it does not meet any of the four CRHR criteria and is therefore not recommended for CRHR listing as an individual resource or as a contributor to a potential archaeological district.

As discussed above, the CA-KER-7214H site was revisited during the pedestrian survey associated with the Tie-Line Survey Area; the visit confirmed that the southern half of the site had been destroyed by the construction of the SCE Whirlwind Substation and that additional natural and mechanical disturbances continue to impact the site. Consequently, it is recommended that this historic resource retain its prior eligibility status of ineligible for NRHP/CRHR listing.

Similar to the project site, proposed ground-disturbing activities associated with the SCE Whirlwind Substation improvements and tie-lines may result in the unanticipated discovery of previously unknown archaeological materials that are determined to be an historical resource. As such, SCE's standard best management practices include pre-construction cultural resources inventory and data recovery, if necessary, and minimization or avoidance of impacts to any potentially significant archaeological resources that might be discovered by implementing standard protocols that include ceasing all work within 50 feet of the discovery, protecting the discovery from further impacts, and contacting an SCE Cultural Resources Specialist. Therefore, impacts would be less than significant for the SCE Whirlwind Substation Upgrades.

Mitigation Measures

Implementation of **MM 4.5-1** through **MM 4.5-4** would be required.

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 Native American monitor(s), shall prepare Cultural Resources Sensitivity Training materials, including a Cultural Resources Sensitivity Training Guide, to be used in an orientation program given to all personnel working on the project. The Lead Archaeologist shall conduct the training, and Tribal representatives from the Consulting Tribes, including Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians), will be allowed to attend and/or participate in the training, should they elect to, and will be given ten days' notice prior to the training. A copy of the proposed training materials shall be provided to the Planning and Natural Resources Department prior to the issuance of grading or building permits.

b. The project proponent/operator shall ensure all new employees or on-site workers who have not participated in earlier Cultural Resources Sensitivity Trainings shall meet the provisions specified above.

c. The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities to facilitate worker recognition,

avoidance, and subsequent immediate notification to the Lead Archaeologist 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.

d. A copy of the Cultural Resources Sensitivity Training Guide/Materials shall be kept on-site and available for all personnel to review and be familiar with, as necessary. It is the responsibility of the Lead Archaeologist to ensure all employees receive appropriate training before they work on-site.

e. The services of Native American Monitors, as identified through consultation with appropriate Native American tribes, working under the supervision of the Lead Archaeologist, shall be retained to monitor initial excavation or ground-disturbing activities as identified in **Mitigation Measure MM 4.5-2** below.

f. The services of archaeological monitors, working under the supervision of the Lead Archaeologist, shall be retained by the project to monitor initial project-related construction activities as identified in **Mitigation Measures MM 4.5-2** through **MM 4.5-5**.

MM 4.5-2: Prior to the issuance of grading or building permits, the project proponent shall submit to the Kern County Planning and Natural Resources Department a Cultural Resources Monitoring and Treatment Plan for approval. The Kern County Planning and Natural Resources Department shall disseminate the Plan to the Consulting Tribes, including Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians). The Plan shall:

a. Require that prior to conducting initial ground disturbance in the vicinity of a prehistoric archaeological site that requires avoidance, an “exclusion area” (i.e., the recorded boundary of the archaeological site that requires avoidance and the area within 60 feet thereof, as recommended by YSMN, shall be temporarily marked with exclusion markers or protective fencing as determined by the Lead Archaeologist in consultation with the Native American Monitor.

b. Require that the construction zone be narrowed or otherwise altered to avoid any exclusion areas.

c. Previously evaluated archaeological sites and isolates that have been determined not eligible under CEQA for the California Register of Historical Resources will not be included in the exclusion areas.

d. The requirements for archaeological monitoring would be noted in the Cultural Resources Treatment Plan. In consultation with the Native American monitor, the archaeologist’s duties would include monitoring, evaluation of any finds, analysis of collected materials, and preparation of a monitoring results report conforming to CEQA guidelines.

e. Provide an overview of best management practices to be utilized during ground-disturbing construction activities to ensure protection of cultural resources.

f. Outline the process for evaluation of any unanticipated cultural discoveries during project construction activities.

g. Provide a Data Recovery Plan, if required, prepared by the Lead Archeologist in consultation with the Native American Monitor(s), for the recovery of known and unanticipated cultural discoveries that cannot be avoided or preserved in place.

MM 4.5-3: In the event that previously unknown archaeological materials are encountered during the course of grading or construction, the project contractor shall cease ground-disturbing activities within 60 feet of the find, as recommended by Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians). The area of the discovery shall be marked off by temporary fencing that encloses a 60-foot radius from the location of the discovery. Signs shall be posted that establish it as an "Exclusion Area," and all entrances into the area shall be avoided until the discovery is assessed by the Lead Archaeologist and Native American Monitor. The Lead Archaeologist, in consultation with 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 Exclusion Area shall remain in place until the treatment is completed. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources.

Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the Lead Archaeologist, in consultation with any Native American Monitor, shall develop additional treatment measures in consultation with Kern County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Diagnostic archaeological materials with research potential recovered during an 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 SSJVIC at California State University, Bakersfield.

MM 4.5-4: The services of both an Archaeological and Native American Monitor, working under the supervision of the Lead Archaeologist as identified through consultation with appropriate Native American tribes, shall be retained by the project proponent to monitor ground-disturbing activities associated with project construction, as follows:

a. During project construction, Archaeological and Native American monitoring shall be conducted for all ground-disturbing activities. If no archaeological discoveries are made during the course of this monitoring, no additional monitoring will be required. If the Lead Archaeologist can demonstrate that the level of monitoring should be reduced or discontinued, or a need for continuing monitoring, the Lead Archaeologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of monitoring to circumstances as warranted.

b. All ground disturbing activities within 100 feet of a grave site shall be monitored by Archaeological and Native American Monitor(s).

c. The Lead Archaeologist and Native American Monitor(s) shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. Should the services of any additional individuals be retained (as the Lead Archaeologist, Archaeological Monitor, or Native American Monitor) subsequent to commencement of ground disturbing activities, such individuals shall be provided all proposed project documentation related to cultural resources within the project site, prior to beginning work. Documentation shall include but not be limited to previous cultural studies, surveys, maps, drawings, etc. Any modifications or updates to project documentation, including construction plans and schedules, shall immediately be provided to the Lead Archaeologist, Archaeological Monitor, and Native American Monitor.

d. 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 and Native American Monitor. After monitoring has been completed, the Lead Archaeologist shall prepare a monitoring report that details monitoring results; assessment of inadvertent discoveries; communication with Tribal representatives; installation of, maintenance of, and guidance for environmentally sensitive areas; and general implementation of the required mitigation. The final monitoring report shall act as a record of compliance with guiding documents and mitigation, and shall be submitted to the Kern County Planning and Natural Resources Department and the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

Level of Significance

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 outlined in Impact 4.5-1, there are four previously recorded cultural resources and 22 newly recorded cultural resources within the Survey Areas. None of these resources have characteristics that would qualify them as unique archaeological resources, and they are not recommended for listing on the CRHR. However, there is the possibility that ground-disturbing construction activities could unearth previously undiscovered, intact archaeological materials. If such materials are uncovered, potentially significant impacts may occur. To avoid or substantially reduce potential impacts to less than significant, **MM 4.5-1** through **MM 4.5-4** would be implemented. These measures include the development of a cultural resource UDP; cultural resources sensitivity training for construction workers; development of a formal cultural resources treatment plan (if necessary); archaeological and Native American monitoring during construction; and appropriate treatment of unearthed archaeological resources during construction. It is anticipated that project operation and decommissioning would not affect archaeological resources. With the implementation of these mitigation measures, the project would not cause a substantial adverse change in the significance of an archaeological resource, as defined in CEQA Guidelines Section 15064.5. Impacts would be less than significant.

SCE Whirlwind Substation Upgrades

As described in Impact 4.5-1, SCE's work activities include clearing, grading, and excavating within the two tie-line corridors. These construction activities have the potential to unearth previously undiscovered archaeological materials, which could be an archaeological resource pursuant to CEQA Guidelines Section 15064.5. SCE's standard best management practices include pre-construction cultural resources inventory and data recovery, if necessary, and minimization or avoidance of impacts to any potentially significant archaeological resources that might be discovered by implementing standard protocols that include ceasing all work within 50 feet of the discovery, protecting the discovery from further impacts, and contacting an SCE Cultural Resources Specialist. Therefore, impacts would be less than significant for the SCE Whirlwind Substation Upgrades.

Mitigation Measures

Implementation of **MM 4.5-1** through **MM 4.5-4** would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.5-3: The project would disturb any human remains, including those interred outside of formal cemeteries.

While no known human remains have been identified in or adjacent to the project site as a result of the cultural resources assessment for the project, ground-disturbing activities could encounter previously undiscovered human remains. In the unexpected event that human remains are inadvertently discovered during project construction activities, disturbance of such resources could result in a potentially significant impact on cultural resources. However, **MM 4.5-5** requires that any human remains that are discovered be protected, preserved, and treated in accordance with applicable laws, regulations, and guidelines. **MM 4.5-5** contains procedures for recording and treating any human remains encountered during project construction, ensuring that potential impacts on cultural resources are less than significant. Further, it is anticipated that project operations and decommissioning would not disturb human remains. Impacts on cultural resources, including human remains, would be less than significant.

SCE Whirlwind Substation Upgrades

As previously discussed, SCE work activities within the tie-line corridor involve clearing, grading, and excavating. While unlikely, there is still the potential for the discovery of human remains during these construction activities. SCE's standard best management practices include pre-construction cultural resources inventory and data recovery, if necessary, and minimization or avoidance of impacts to any potentially significant archaeological resources that might be discovered by implementing standards protocols that include ceasing all work within 50 feet of the discovery, protecting the discovery from further impacts, and contacting a SCE Cultural Resources Specialist. SCE would also comply with applicable state law relating to discovery of human remains. Therefore, impacts would be less than significant for the SCE Whirlwind Substation Upgrades.

Mitigation Measures

Implementation of **MM 4.5-5** would be required.

MM 4.5-5: If human remains are uncovered during project construction, the project contractor shall immediately halt work within 100 feet of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 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, and in accordance with generally accepted cultural or archeological standards or practices, the project proponent shall ensure that the immediate vicinity of the Native American human remains is not damaged or disturbed by further development activity until the project proponent 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

Impacts would be less than significant.

4.5.6 Cumulative Setting, Impacts, and Mitigation Measures

Impacts of a project would be considered cumulatively considerable if they have the potential to combine with other past, present, or reasonably foreseeable projects to become significant. Cumulative projects listed in **Table 3-4**, *Cumulative Projects List*, in **Chapter 3**, *Project Description*, would have relatively similar impacts on cultural resources as those of the project. The geographic area of analysis of cumulative impacts for cultural resources includes the western Antelope Valley. This geographic scope of analysis is appropriate because the archaeological and historical resources within this area are expected to be similar to those occurring within the Study Area, due to their proximity, similar environments, landforms, and hydrology. Further, 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. Cumulative impacts on cultural resources in the western Antelope Valley could occur if other projects, in conjunction with the project, had or would have impacts on cultural resources that, when considered together, would be significant.

Development of the project, in combination with other projects, has the potential to contribute to a cumulatively significant cultural resources impact due to the potential loss of historic and archaeological resources unique to the region. However, no known cultural resources would be impacted by the construction, operation, or decommissioning of the project, and mitigation measures would be implemented to avoid or substantially reduce potentially significant impacts on unknown cultural resources that could be

encountered. Implementation of **MM 4.5-1** through **MM 4.5-4** requires the development of a cultural resource UDP; cultural resources sensitivity training for construction workers; development of a formal cultural resources treatment plan (if necessary); archaeological and Native American monitoring during construction; and appropriate treatment of unearthed archaeological resources during construction. Implementation of these mitigation measures would reduce potential impacts to historical resources to a less-than-significant level and ensure that project-level 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, implementation of **MM 4.5-5** would ensure that appropriate laws and protocols are followed if human remains are uncovered and ensure that cumulative impacts are not significant.

With the implementation of **MM 4.5-1** through **MM 4.5-5**, as described above, the project would not result in a cumulatively considerable contribution to a significant cumulative impact involving historical, archaeological, and/or cultural resources.

SCE Whirlwind Substation Upgrades

As described above in Impact 4.5-1, the project includes two 220-kV overhead tie-lines and upgrades to the existing SCE Whirlwind Substation. Construction of the tie-lines would involve the clearing, grading, and excavating of land within a 100-foot-wide corridor centered on each of the off-site tie-line alignments. Additionally, the work activities include installing tie-line support poles or towers, stringing overhead conductors, and installing telecommunication lines. Within the existing SCE Whirlwind Substation, new 220-kV switch racks and line positions would be installed to terminate the tie-lines and telecommunications infrastructure.

During construction, ground-disturbing activities, such as grading or excavating, could unearth previously unknown cultural resources, including human remains. SCE's standard best management practices include pre-construction cultural resources inventory and data recovery, if necessary, and minimization or avoidance of impacts to any potentially significant archaeological resources that might be discovered by implementing standard protocols that include ceasing all work within 50 feet of the discovery, protecting the discovery from further impacts, and contacting an SCE Cultural Resources Specialist. All impacts related to the SCE Whirlwind Substation upgrades would be less than significant, as provided above, and the incremental effect of the SCE Whirlwind Substation upgrades is not cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects, and the effects of probable future projects. Cumulative impacts would be less than significant for the SCE Whirlwind Substation upgrades.

Mitigation Measures

Implementation of **MM 4.5-1** through **MM 4.5-5** would be required.

Level of Significance After Mitigation

Cumulative impacts would be less than significant.

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Section 4.6
Energy

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Section 4.6
Energy

4.6.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the affected environment and regulatory setting for energy and analyzes the energy implications of the project, focusing on two energy resources: electricity and petroleum-based fuels. The project would not use natural gas during construction or operation; therefore, natural gas is not addressed in detail in this section. This section includes a summary of the project's anticipated energy needs and conservation measures. Information in this section is primarily based on the *Supplemental Air Quality and Greenhouse Gas Emissions Modeling Technical Memorandum* (**Appendix B3**), the *Energy Utilization Evaluation Report* (**Appendix E**), and the *Air Quality and Greenhouse Gas Emissions Report* (**Appendix B1**) prepared for the project and incorporated by reference herein. 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*.

This section provides the content and analysis required by Public Resources Code, Section 21100(b)(3), and described in Appendix F to the California Environmental Quality Act (CEQA) Guidelines. 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 to the CEQA Guidelines 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. Appendix G was amended to 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 manufactured 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), equal to 1 million watts, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), equal to 1 billion watt-hours.

According to the U.S. Energy Information Administration (EIA), California consumed approximately 245,717 GWh of electricity in 2024 (EIA 2026a). In 2024, the State's transportation sector accounted for 45 percent of the State's total energy consumption, followed by the industrial sector at 21 percent, and the residential and commercial sectors each accounted for 17 percent (EIA 2026b). Electricity usage in California for differing land uses varies substantially by the type of uses in a building, type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. Due to the State's energy efficiency building standards and efficiency and conservation programs, California's per capita residential and commercial sector energy use is lower than any other state except Hawaii (EIA 2026b).

Southern California Edison (SCE) provides electricity to the project region. SCE, a subsidiary of Edison International, serves approximately 180 cities in 11 counties across central and Southern California. SCE receives electric power from a variety of sources, and updates 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,** *SCE's Delivered Electric Power Mix to Retail Customers in 2024*, shows the electric power mix that was delivered to retail customers for SCE compared to the statewide power mix for 2024, the most recent year for which data are available.

TABLE 4.6-1: SCE'S DELIVERED ELECTRIC POWER MIX TO RETAIL CUSTOMERS IN 2024

Electricity Source	SCE	CA Power Mix (for comparison)
RPS Eligible Renewable	**35%**	**45%**
Biomass & bio-waste[a]	0%	2%
Geothermal	4%	5%
Eligible hydroelectric	1%	2%
Solar	19%	23%
Wind	11%	14%
Coal	**0%**	**2%**
Large Hydroelectric	**5%**	**10%**
Natural Gas	**8%**	**10%**
Nuclear	**9%**	**11%**
Other	**0%**	**0%**
Unspecified Power (primarily fossil fuels)[b]	**43%**	**22%**
Total	**100%**	**100%**

Notes:

[a] The Eligible Renewables category is further delineated into the specific sources: biomass & waste, geothermal, small hydroelectric, solar, and wind.

[b] Unspecified power is electricity purchased from a genericized pool on the open market.

Sources: SCE 2026a, SCE 2026b.

Petroleum

California used approximately 27.7 billion gallons of petroleum in 2024. Most of California's petroleum customers are residential and small commercial customers (core customers). This equates to a daily use of approximately 75.9 million gallons of petroleum. By sector, transportation uses account for approximately 86 percent of the state's petroleum, followed by 10 percent from industrial, 2 percent from commercial, 1 percent from residential, and less than 1 percent from electric power uses (EIA 2026b). In California, petroleum fuels refined from crude oil are the dominant source of energy for transportation, machinery, and even backup generators. Petroleum usage in California includes petroleum products, such as motor gasoline, diesel fuel, liquefied petroleum gases, and jet fuel. California has implemented policies to improve vehicle efficiency and to support use of alternative transportation. 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 2025). The California Energy Commission (CEC) predicts that the demand for gasoline will continue to decline over the next five to 10 years and that there will be an increase in the use of alternative fuels (CEC 2025).

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 U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards (NHTSA 2023). 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 the USEPA and NHTSA. The Phase 1 heavy duty truck standards apply to combination tractors, heavy duty pickup trucks and vans, and vocational vehicles, and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. The USEPA and NHTSA 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). In 2022, a final rule established standards for passenger cars and light trucks, requiring an industry-wide fleet average of 49 miles per gallon in 2026. The new standards increase fuel efficiency eight percent annually for model years 2024-2025 and 10 percent annually for model year 2026. They also increase the estimated fleetwide average by nearly 10 miles per gallon for model year 2026, relative to model year 2021 (NHTSA 2023).

On December 5, 2025, NHTSA published a Notice of Proposed Rulemaking, The Safer Affordable Fuel-Efficient (SAFE) Vehicle Rule III for Model Years 2022 to 2031 Passenger Cars and Light Trucks, which would reset the maximum feasible fuel economy standards for these vehicles. NHTSA projects that the amended standards would correspond to the industry fleetwide average for all light-duty vehicles of roughly 34.5 miles per gallon in MY 2031 (90 Federal Register 56144).

Federal Energy Policy and Conservation Act

The National Energy Conservation Policy Act serves as the underlying authority for Federal energy management goals and requirements. Signed into law in 1975, it has been regularly updated and amended by subsequent laws and regulations. Pursuant to the Act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 FR 62624–63200). Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

Energy Policy Act of 2005

The Energy Policy Act of 2005 sets equipment energy efficiency standards and seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, under the Act, consumers and businesses can attain Federal tax credits for purchasing fuel-efficient appliances and products, including hybrid vehicles; constructing energy-efficient buildings; and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary micro-turbine power plants, and solar power equipment.

Energy Independence and Security Act of 2007

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; 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. It offered a new energy grant program for local governments to implement 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) 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 2024 Integrated Energy Policy Report Update provides the results of the CEC's assessments of a variety of energy issues facing California, including the California Energy Demand Forecast, the feasibility, costs, and benefits of wave and tidal energy resources pursuant to SB 605, and key issues related to electricity system planning and Western electricity market coordination (CEC 2025).

California's Renewables Portfolio Standard

California's Renewables Portfolio Standard (RPS) Program was initially established in 2002 with SB 1078 and accelerated in 2006, requiring investor-owned utilities to obtain 20 percent of their electric supply from renewable energy sources, such as solar, by 2010. The RPS Program is codified in Public Utilities Code Sections 399.11-399.33. In April 2011, Governor Brown signed SB 2X, requiring California electricity retailers to procure 33 percent of their retail energy sales from eligible renewable sources by 2020. In

October 2015, SB 350 was passed, requiring electricity retailers to further increase the amount of renewable energy delivered to customers to 50 percent by 2030 (CPUC 2024).

In 2018, SB 100 accelerated and expanded the standards set forth in SB 350 by establishing that 100 percent of all electricity in California must be obtained from renewable energy and zero-carbon resources by December 31, 2045. The bill also increases the goal of the program to achieve a 50 percent renewable resources target by December 31, 2026, and a 60 percent target by December 31, 2030. The bill incrementally requires energy providers to have an eligible renewable energy supply so that the total kilowatt-hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030. This bill requires that the achievement of 100 percent zero-carbon electricity resources does not increase carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

In September 2022, Governor Newsom signed SB 1020, the Clean Energy, Jobs, and Affordability Act, which adds interim targets to the policy framework originally established in SB 100. The interim targets require renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent of all retail electricity sales by 2040. The bill also requires all state agencies to rely on 100 percent renewable energy and zero-carbon resources to power their own facilities by 2035 and encourages better information sharing and coordination between agencies for transmission planning.

Assembly Bill 1493

In response to the transportation sector accounting for more than half of California's greenhouse gas emissions, Assembly Bill (AB) 1493, commonly known as the Pavley regulations, was enacted in 2002. AB 1493 directed CARB to establish GHG emission standards for passenger vehicles, light-duty trucks, and other motor vehicles used primarily for personal transportation. Following adoption of federal vehicle greenhouse gas standards by the United States Environmental Protection Agency (USEPA), CARB revised the Pavley regulations to allow compliance with the federal standards to satisfy California's requirements for model years 2012 through 2016.

In 2012, CARB approved the Low Emission Vehicles (LEV) III program, which established more stringent GHG emission standards for passenger vehicles beginning with model year 2017. More recently, CARB adopted the LEV IV standards in November 2022, further reducing allowable exhaust and evaporative emissions from light- and medium-duty internal combustion engine vehicles. LEV IV also revises the calculation procedure for new vehicle fleet-average emissions and phases out the inclusion of zero emissions vehicles in fleet-average emissions compliance calculations beginning with model year 2029.

Executive Order N-79-20

Executive Order N-79-20, signed by Governor Newsom in 2020, mandated that all new car and delivery and short-haul truck sales will be zero-emission by 2035, and all big-rig truck sales 100 percent zero-emission by 2045.

Emergency Proclamation

On July 30th, 2021, Governor Newsom declared a State of Emergency in California regarding statewide electricity shortages caused by climate change, drought, heat, and wildfires. The Governor called upon agencies across the State to take actions to expedite approval of battery energy storage systems to bring capacity online in 2022 and beyond. The Emergency Proclamation, in part, Orders that "[a]ll energy

agencies shall act immediately to achieve energy stability during this emergency…" and Orders State agencies "to work with the State's load serving entities on accelerated plans for the construction, procurement, and rapid deployment of new clean energy and storage projects to mitigate the risk of capacity shortages and increase the availability of carbon-free energy at all times of day."

California Health and Safety Code, Division 25.5/California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32 (codified in the California Health and Safety Code [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.

Low Carbon Fuel Standard

The Low Carbon Fuel Standard (LCFS), established standards for reducing GHG emissions measured in carbon dioxide equivalent (CO_2e) grams per unit of fuel energy sold in California. The original target of the LCFS was to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009.

The LCFS regulation was revised to foster investments in the production of low-carbon fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. In 2024, the target was revised to reduce the carbon intensity of the State's transportation fuel by 30 percent by 2030 and by 90 percent by 2045.

California Air Resources Board

CARB's Advanced Clean Car Program

The Advanced Clean Cars emissions-control program was approved by CARB in 2012. 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 LEV regulations to reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles; and the Zero-Emissions Vehicle regulations (ZEV) to require manufacturers to produce an increasing number of pure ZEVs (meaning battery and fuel cell electric vehicles) with the provision to produce plug-in hybrid electric vehicles (PHEV) between 2018 and 2025.

In 2022, CARB adopted the Advanced Clean Cars II regulations to establish the next phase of regulations beginning with the 2026 model year. Advanced Clean Cars II, among other things, increased the stringency of the smog-causing criteria pollutant standards, updated the zero-emission vehicle regulation to require that 100% of new passenger vehicles meet zero-emission standards (including plug-in hybrids) by the 2035

model year, and established a suite of assurance measures to ensure zero-emission vehicles can provide enduring emission reductions.

CARB also adopted the Advanced Clean Truck Regulation to accelerate a large-scale transition of zero-emission medium- and heavy-duty vehicles. The regulation requires the sale of zero-emission medium- and heavy-duty vehicles as an increasing percentage of total annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55 percent of Class 2b to 3 truck sales, 75 percent of Class 4 to 8 straight truck sales, and 40 percent of truck tractor sales. By 2045, every new medium- and heavy-duty truck sold in California will be zero-emission. Large employers, including retailers, manufacturers, brokers, and others, are required to report information about shipments and shuttle services to better ensure that fleets purchase available zero-emission trucks.

On June 12, 2025, President Trump signed three Congressional Review Act resolutions that rescind California's electric vehicle sales mandates and diesel engine rules. House Joint Resolution 88 revokes the USEPA's Clean Air Act waiver to California that allowed adoption of the Advanced Clean Cars Program. California, joined by other states, filed a lawsuit in federal court challenging the three resolutions. In the interim, Governor Newsom signed Executive Order N-27.25 directing CARB to develop new zero-emissions regulations. The Trump administration has challenged California's attempts to develop new regulations, and the State of Texas has intervened in that challenge.

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

In 2004, CARB adopted an Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling in order to reduce public exposure to diesel particulate matter emissions (Title 13 California Code of Regulations [CCR] Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

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 nitrogen oxides, particulate matter less than 10 microns in diameter, and particulate matter less than 2.5 microns in diameter emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). The phased regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement, replacement, or retrofit of older engines with newer emission-controlled models.

CARB promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-Road Diesel-Fueled Fleets regulation adopted by CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR Section 2449). The compliance schedule requires full implementation in all equipment for large and medium fleets by 2023 and for small fleets by 2028.

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 Building Standards Code

The California Building Standards Code, Title 24 of the California Code of Regulations, contains the regulations that govern the construction of buildings in California. Title 24, Part 6 contains energy conservation standards applicable to most residential and nonresidential buildings throughout California. Title 24, Part 11 is the California Green Building Standards (CALGreen) and includes regulations for energy efficiency and conservation, material conservation, resource efficiency, and environmental quality. CALGreen also mandates locally permitted new residential and non-residential building construction, demolition, and certain additions and alteration projects to recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous Construction and Demolition debris generated during the project (CALGreen Sections 4.408, 5.408, 301.1.1, and 301.3).

2022 Scoping Plan for Achieving Carbon Neutrality

The 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) was approved by CARB in December 2022 and assesses progress toward achieving the state's GHG reduction goals and establishes a path to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for advancing transportation technology, clean energy deployment, maintenance and preservation of natural and working lands, and others, and is designed to meet the state's long-term climate objectives. Specifically, the 2022 Scoping Plan identifies carbon negative technologies, including nature-based and mechanical carbon sequestration projects, as an essential component in achieving statewide carbon neutrality (CARB 2022).

CPUC 2021 Mid-Term Reliability (MTR) Decision

On June 30, 2021, the CPUC issued its 2021 Mid-Term Reliability (MTR) Decision (D.21-06-035), mandating that CPUC jurisdictional Load-Serving Entities procure 11,500 MW of new, clean net qualifying capacity between August 2023 and June 2026. This Decision is part of the CPUC's Integrated Resource Planning and aims to ensure that sufficient resources are available to maintain grid reliability and meet the State's GHG emission reduction goals for the electricity sector in a cost-effective manner. The Decision requires that at least 2,500 MW of the net qualifying capacity increase must be from either zero-emission resources that generate electricity, generation resources paired with storage, or demand response. Additionally, 1,000 MW must be from firm zero-emitting clean resources and 1,000 MW must be from long-duration energy storage.

In March 2023, the CPUC issued the Supplemental MTR Decision (D.23-02-040), which requires procurement of an additional 4,000 MW of new, clean net qualifying capacity, with 2,000 MW to be procured by June 1, 2026, and another 2,000 MW by June 1, 2027. The Decision recognizes the difficulties in procuring long lead-time resources (firm zero-emitting and long-duration energy storage) and extends the procurement deadline for those resources from June 1, 2026, to June 1, 2028. Load Serving Entities are now required to procure a total of 15,500 MW net qualifying capacity, with yearly incremental deadlines and a final deadline of June 1, 2028 (CPUC 2025).

Issued in February 2024, Decision D.24-02-047 gives Load Serving Entities the option of extending the deadline for procurement of long lead-time resources to June 1, 2031.

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to energy. The goals, policies, and implementation measures in the Kern County General Plan (KCGP) and the Willow Springs Specific Plan related to energy that are applicable to the project are provided below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for energy applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

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

1.9 Resources

Goals

Goal 4: Encourage safe and orderly energy development within the County, including research and demonstration projects, and to become actively involved in the decision and actions of other agencies as they affect energy development in Kern County.

Chapter 5. Energy Element

5.2 Importance of Energy to Kern County

Goals

Goal: To assert Kern County's position as California's leading energy producer, to encourage safe and orderly energy development within the County, including research and demonstration projects, and to become actively involved in the decisions and actions of other agencies as they affect energy development in Kern County.

Policies

Policy 1: Kern County should assert and promote its role as the State's leading energy County.

Policy 4: The County should actively seek State and federal energy grants and projects to assist in energy planning and development.

Policy 5: The County shall work with other agencies to define regulatory responsibility concerning energy-related issues, and shall seek to eliminate, insofar as possible, duplicative regulations.

Policy 6: The County should encourage discussion and mutual cooperation of various energy industries within the County to establish mutual understanding of common needs and issues.

Policy 7: The processing of all discretionary energy project proposals shall comply with California Environmental Quality Act (CEQA) Guidelines directing that the environmental effects of a project must be taken into account as part of project consideration.

Policy 8. The County should work closely with local, State, and federal agencies to assure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts to fish, wildlife, and botanical resources, wherever practical.

Policy 9. The County should develop and implement measures which result in long-term compensation for wildlife habitat, which is unavoidably damaged by energy exploration and development activities.

Willow Springs Specific Plan

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). 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 KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for energy applicable to the project are provided below. The Willow Springs Specific Plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated in **Chapter 2**, *Introduction*, all goals, policies, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Air Quality Element

Policies

Policy 5: Energy conservation practices, as required by the Subdivision Map Act, Building Energy Efficiency Standards (California Energy Commission, 1988), and State and local laws, shall be incorporated into the design of the individual projects to have the secondary effect of limiting stationary source pollutants both on- and off-site. These standards address insulation and instruction to the original homeowners addressing glazing (window) type shading, heating/cooling system type, thermostats, lighting, water heating equipment, etc.

4.6.4 Impacts and Mitigation Measures

This section describes the methodology used in conducting CEQA impact analysis for energy; the thresholds of significance used in assessing impacts to energy; and the assessment of impacts to energy, including relevant mitigation measures.

Methodology

This analysis addresses potential energy use associated with construction, operation, and decommissioning of the project, including electricity and petroleum use. The project would not use natural gas during construction, operation, and decommissioning. The assessment presented herein is based in part on the *Energy Utilization Evaluation Report* prepared for the project (**Appendix E**), the *Air Quality and GHG*

Emissions Report prepared for the project (**Appendix B1**), and the *Supplemental Air Quality and Greenhouse Gas Emissions Modeling Technical Memorandum* (**Appendix B3**).

Construction of the project would occur over a period of up to two years, with the highest energy use occurring during the first full year, in 2027, during construction of the North BESS and South BESS areas of the project. Accordingly, 2027 represents the maximum annual energy consumption. For purposes of this analysis, it was conservatively assumed that construction activities in 2028 would require the same amount of energy consumption as estimated for 2027.

The project has an anticipated operational life of up to 35 years, at which time the project proponent would determine whether the project site should be decommissioned and deconstructed or if it would seek an extension of its operation and the appropriate permitting pathways. As project decommissioning activities would be similar to project construction activities (using the same types of equipment and same general activities), the quantified energy consumption from construction is used as a surrogate for decommissioning activities. However, it is anticipated that energy consumption from decommissioning activities would be lower than estimated for construction activities due to future advances in construction equipment technology and fuel efficiency.

Electricity

Electricity is not expected to be consumed in large quantities during project construction, as construction equipment and vehicles would be diesel- or gas-powered, and not electric. Electric energy from the grid will be used to provide routine power during project operation.

The primary energy demand during operation would be electricity for climate-controlled site electrical equipment, climate-controlled storage containers, and up to three operation and maintenance buildings. The peak on-site auxiliary power for these primary uses is estimated to be 19,805 MWh/ per year. The project would have a total battery energy storage capacity of up to 9,200 MWh. Additional details regarding calculation of peak auxiliary load are provided in the *Energy Utilization Evaluation Report* (**Appendix E**).

Other minor operational electricity consumption would include lighting, operations and maintenance building office electronics, pumping water, microwave communications, and electrical components in Supervisory Control and Data Acquisition (SCADA) and site security monitoring systems. Minor electricity consumption associated with these activities was estimated using the California Emissions Estimator Model (CalEEMod) Version 2022.1.1.44.

Petroleum

Gasoline and diesel fuel consumption in on-road vehicles and off-road mobile equipment was estimated for project construction using the estimated greenhouse gas emissions modeled and presented in the *Supplemental Air Quality and Greenhouse Gas Emissions Technical Memorandum* (**Appendix B3**) and conversion factors from USEPA. The conversion factor for gasoline is 8.78 kilograms CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms CO_2 per gallon (USEPA 2025). Heavy-duty construction equipment associated with on-site construction activities and haul trucks involved in importing or exporting material to and from the site were assumed to use diesel fuel, while worker vehicles were assumed to use gasoline.

During project operation, gasoline would be consumed by routine employee commute vehicles, periodic maintenance crews, augmentation installation crews, and delivery vehicles. Routine site operation would require up to six full-time employees. Periodic maintenance activities, assumed to occur up to 16 days per

year, would require six workers. Augmentation installation was assumed to take up to 10 days per year and would require 30 workers. Vehicle miles traveled (VMT) per trip was based on the CalEEMod default Non-Residential Home-Work Trip length, and each worker was conservatively assumed to commute to and from the site alone. Total annual miles traveled for worker commutes during project operations was estimated to be 179,468. Gallons of gasoline from worker commutes were estimated based on annual VMT and an assumed fuel economy of 33.5 miles per gallon (**Appendix E**).

Diesel fuel would be consumed during operation for off-road equipment use associated with diesel-fueled delivery vehicles, periodic maintenance, and augmentation installation activities. Routine operations assumed one daily delivery; periodic maintenance activities assumed to occur up to 16 days per year, requiring the use of one crane, forklift, and tractor/loader/backhoe and three deliveries per day; and augmentation installation assumed to take up to 10 days per year, requiring one large and one small crane, and a forklift, and 10 deliveries per day. Diesel fuel usage from operation of off-road equipment was estimated based on usage frequency, horsepower, and fuel usage in gallons per horsepower hour. Total annual miles traveled for deliveries during project operations was estimated to be 35,602. Gallons of diesel fuel used for deliveries were estimated based on annual VMT and an assumed fuel economy of 33.5 miles per gallon. Additional details regarding calculation of fuel consumption are provided in the *Energy Utilization Evaluation Report* (**Appendix E**).

Project operation would also require up to four 250-kW diesel-fueled emergency backup generators to provide facility operational redundancies, with two generators located at each collector substation. Each generator would be equipped with a 500-gallon fuel tank. The generators would only operate during power outages and emergency conditions, or for up to 50 hours for periodic maintenance and testing purposes in accordance with CARB's ATCM for Stationary Compression Ignition Engines (17 CCR Section 93115) for Tier 3 engines. Fuel usage from emergency back-up generators used periodically during operation of the project was estimated using the fuel consumption rate for a representative 250-kW diesel-fueled emergency backup generator and an assumed 50 hours of operation per engine per year for periodic maintenance and testing purposes.

The project's energy consumption and demand were evaluated in comparison to the CEQA thresholds of significance to determine whether the project would result in a significant impact related to energy, as discussed below.

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; and

The effects of the project on energy resources.

In late 2018, the California Natural Resources Agency finalized updates to the 2018 CEQA Guidelines, including amendment of Appendix G to include analysis of energy impacts. 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).

Per CEQA Guidelines Appendix G Checklist, Issue VI. Energy, this analysis considers these factors and provides the estimated maximum energy consumption for the purposes of evaluating the associated impacts on energy resources and requirements.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that, 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 and Decommissioning

Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers, and heating, ventilation, and air conditioning [HVAC]) would be provided by portable generators. The amount of electricity used during construction would be minimal; typical demand would stem from the use of electrically powered hand tools and several construction trailers by managerial staff during the hours of construction activities. The electricity used for construction activities would be temporary and minimal; therefore, potential impacts would be less than significant. Natural gas is not anticipated to be required during construction of the project; therefore, no impact would occur.

Workers would travel to and from the project site and would consume gasoline fuel throughout the duration of construction and decommissioning. Heavy-duty equipment associated with project construction and decommissioning would consume diesel fuel, as would vendor trucks involved in delivery of materials to the project site and haul trucks importing or exporting demolition material or other materials off-site.

Table 4.6-2, *Estimated Project Construction and Decommissioning Fuel Usage*, provides the estimated gasoline and diesel fuel use from on-road vehicles and construction equipment during project construction and decommissioning. Approximately 73,003 gallons of gasoline would be consumed by on-road employee vehicle commute trips, and approximately 337,868 gallons of diesel would be consumed from off-road equipment and truck trips during construction. Energy consumption associated with decommissioning activities is conservatively assumed to be similar to construction activities. Therefore, the total gasoline and diesel consumption for decommissioning is projected to be 73,003 gallons and 337,868 gallons, respectively. Estimated total gasoline and diesel consumption for project construction and decommissioning represents approximately 0.001 percent and 0.018 percent of statewide fuel resources, respectively.

TABLE 4.6-2: ESTIMATED PROJECT CONSTRUCTION AND DECOMMISSIONING FUEL USAGE

Source	Total Gallons of Gasoline Fuel	Total Gallons of Diesel Fuel
Construction:		
Workers	73,003	--
Onsite Trucks	--	5,940
Diesel Vendor and Haul Trucks	--	84,678
Offroad Equipment	--	247,250
Construction Subtotal	*73,003*	*337,868*
Decommissioning Subtotal	*73,003*	*337,868*
Construction and Decommissioning Total	**146,003**	**675,736**
Statewide Fuel Resources [a]	13,139,280,000	3,833,340,000
Project Percentage of Statewide Fuel Resources	**0.001%**	**0.018%**

Notes:

[a] 2024 California motor gasoline consumption and distillate fuel oil total end-use consumption (EIA 2026a).

Source: *Energy Utilization Evaluation Report* (**Appendix E**), *Supplemental Air Quality and Greenhouse Gas Emissions Modeling Technical Memorandum* (**Appendix B3**).

There are no unusual project characteristics that would cause or require the use of construction equipment that would be less energy efficient compared with other similar projects. Additionally, contractors would not utilize fuel or electricity in a manner that is wasteful or unnecessary in the interest of cost-efficiency. Therefore, it is expected that project construction and decommissioning fuel consumption would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region. Although the consumption of fuel during construction and decommissioning would be irreversible, the project would be required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes. Therefore, impacts related to energy consumption would be less than significant.

Operation

Long-term operation of the project would require energy consumption in the form of electricity, gasoline and diesel fuel for vehicles and mobile equipment, and diesel fuel for periodic testing and maintenance of emergency backup generators. The project would not use natural gas during operation.

Electricity

Electricity for project operation would be supplied through the existing SCE Whirlwind Substation. Operational energy demand would primarily be associated with climate control systems for battery

storage equipment, storage containers, and operation and maintenance buildings. Additional electricity demand would be associated with lighting, office electronics, water pumping, communication systems, SCADA equipment, and security monitoring systems. Peak power demand is estimated at approximately 19,807 MWh per year.

The project would also experience unavoidable energy losses associated with charging, storing, discharging, and transmitting electricity. The amount of these losses would depend on operating conditions, ambient temperatures, and other factors. However, the project's interconnection to the adjacent existing SCE Whirlwind Substation would minimize transmission-related energy losses by reducing the distance electricity must travel between the project and the electrical grid. In addition, the project would be designed to comply with applicable CALGreen and Title 24 energy-efficiency requirements. Energy consumption would also be minimized through efficient system design because electricity use, particularly for climate control of battery equipment, represents a substantial operational cost.

Petroleum

Operation would require the use of gasoline fuel associated with up to six full-time employees, deliveries, periodic maintenance, and augmentation installation on-road vehicle trips. Additionally, diesel fuel would be consumed by delivery vehicle trips, off-road equipment, and periodic testing of up to four 250 kW diesel-fired back-up generators. Fuel usage estimates for the emergency diesel generators reflect up to 50 hours of operation per engine per year for periodic maintenance and testing purposes in accordance with CARB's ATCM for Stationary Compression Ignition Engines (17 CCR Section 93115) for Tier 3 engines. Testing would be limited to the periods recommended by the equipment manufacturer to avoid wasteful use of diesel fuel.

As shown in **Table 4.6-3**, *Project Operational Fuel Usage Per Year*, the project would consume approximately 5,357 gallons of gasoline and 6,303 gallons of diesel fuel per year, approximately 0.00004 percent and 0.00016 percent of the State's annual gasoline and diesel resources, respectively. Over the lifetime of the project, the fuel efficiency of the vehicles being used by the employees and workers is expected to improve. As such, the amount of petroleum consumed by vehicular trips to and from the project site during operation would decrease over time.

TABLE 4.6-3: PROJECT OPERATIONAL FUEL USAGE PER YEAR

Source	Total Gallons of Gasoline Fuel	Total Gallons of Diesel Fuel
Operations and Maintenance:		
Workers	5,357	--
Delivery Trucks	--	1,063
Off-Road Equipment	--	1,420
Emergency Backup Generators	--	3,820
Total	**5,357**	**6,303**
Statewide Fuel Resources [a]	13,139,280,000	3,833,340,000
Percentage of Statewide Fuel Resources	**0.00004%**	**0.00016%**

Notes:

[a] 2024 California motor gasoline consumption and distillate fuel oil total end-use consumption (EIA 2026).

Sources: *Energy Utilization Evaluation Report* (**Appendix E**), *Supplemental Air Quality and Greenhouse Gas Modeling Technical Memorandum* (**Appendix B3**).

Although operation of the project would require ongoing electricity and fuel consumption, lithium-ion battery technology is currently recognized as the most efficient commercially available utility-scale electric power storage technology. By increasing utility-scale energy storage capacity and supporting State and local renewable energy and grid reliability goals, the project would improve the integration of renewable energy resources and provide a beneficial contribution to energy conservation. Therefore, the project would not result in inefficient, wasteful, or unnecessary consumption of energy resources, and thus impacts would be less than significant.

SCE Whirlwind Substation Upgrades

The project includes two 220-kV overhead tie-lines to the SCE Whirlwind Substation located on the adjacent parcels to the south of the project site. SCE's work activities outside of the Whirlwind Substation, including tie-line access clearing, installation of telecommunications lines, installation of tie-line support poles or towers, stringing of overhead conductors, and operation and maintenance of the tie-lines to the Point of Change of Ownerships, would disturb all land within a 100-foot-wide corridor centered on each of the offsite tie-line alignments. Within the existing Whirlwind Substation, each tie-line would require the installation of facilities for a new 220-kV switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3.0**, *Project Description*.

Impacts associated with the SCE Whirlwind Substation work are included in the whole-project analysis and discussed above. Construction activities associated with the Whirlwind Substation improvements and tie-lines would consume fuel to power on-road vehicles and off-road equipment. Long-term operation and maintenance of the tie-lines and associated infrastructure would not require energy consumption. Operational inspection and maintenance activities for the interconnection equipment would be conducted as part of the overall inspection and maintenance of the existing substation and transmission facilities. SCE would comply with all applicable State and federal laws and regulations, including regulations regarding energy consumption.

Further, the SCE Whirlwind Substation upgrade work would transmit electricity from renewable energy sources to the regional grid, contributing to the State's ability to meet its renewable energy generation and GHG emission reduction goals. Thus, the SCE Whirlwind Substation upgrade work would not result in wasteful, inefficient, or unnecessary consumption of energy during construction or operations. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

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 and Decommissioning

During construction and decommissioning, on-road vehicles and off-road equipment would comply with applicable federal and State requirements intended to improve energy efficiency and reduce fuel consumption. These requirements include the USEPA and NHTSA fuel-efficiency standards for medium-

and heavy-duty vehicles, CARB regulations limiting heavy-duty diesel vehicle idling to five minutes, and CARB emission standards for off-road equipment that phase in and promote the use of more fuel-efficient engines. In addition, **MM 4.3-3** (see **Section 4.3**, *Air Quality*) would further ensure equipment and vehicle idling is minimized during construction and decommissioning activities. Although these regulations are intended to reduce air pollutant emissions, they would also reduce fuel consumption and increase energy efficiency during construction and decommissioning.

Construction and decommissioning activities would comply with applicable federal and State energy-efficiency regulations and would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Therefore, no impact would occur.

Operation

As discussed in **Section 4.8**, *Greenhouse Gas Emissions*, the State's renewable energy and greenhouse gas reduction strategies rely on renewable energy generation and energy storage capacity to achieve State climate and energy goals. The project would provide up to 9,200 MWh of battery energy storage capacity, facilitating the integration of off-site renewable energy resources, improving grid reliability, and supporting achievement of the State's RPS and GHG reduction targets. Accordingly, the project would be consistent with the objectives of the RPS.

CPUC's 2021 MTR Decision (D.21-06-035) was adopted through the Integrated Resource Planning process to ensure sufficient electric system reliability while achieving the State's GHG emission reduction goals. The Supplemental MTR Decision (D.23-02-040) subsequently required procurement of an additional 4,000 MW of new clean net qualifying capacity in 2026 and 2027 and extended the compliance deadline for long lead-time resources, including long-duration energy storage, to 2028. CPUC Resolution E-5371 identified the project as an approved resource to satisfy a portion of SCE's long-duration energy storage procurement obligation under the MTR program (CPUC 2025). Accordingly, the project would be consistent with the CPUC's MTR procurement requirements and would support the State's efforts in achieving the mandated emission reduction targets established by AB 32.

The proposed operation and maintenance buildings would be designed to comply with the California Building Energy Efficiency Standards (Title 24, Part 6) and applicable CALGreen requirements (Title 24, Part 11). The Building Energy Efficiency Standards are intended to reduce energy consumption, increase electricity supply reliability, and minimize the need for new generating capacity. Compliance would be verified by Kern County (County) during review of the building plans, and could include measures, such as energy-efficient lighting and HVAC systems, high-performance insulation, solar-reflective roofing materials, and other energy-conserving measures. The project would also comply with CALGreen requirements for diversion of nonhazardous construction waste from landfills. Compliance with these requirements would reduce operational energy consumption and improve overall energy efficiency.

Overall, the project would support implementation of California's RPS Program by facilitating the integration of renewable energy resources, improving grid reliability, and contributing to state-mandated procurement of long-duration energy storage resources. Therefore, the project would be consistent with the applicable objectives of the CARB Climate Change Scoping Plan, the RPS, and the CPUC's Mid-Term Reliability Program, and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, no impact would occur.

SCE Whirlwind Substation Upgrades

As previously discussed, SCE would complete system upgrades to facilitate interconnection of the project to the Whirlwind Substation as described in **Chapter 3.0**, *Project Description*. Upgrades to the existing Whirlwind Substation and tie-line connection for the transport of renewable energy into the regional electrical grid would contribute to the State's ability to meet its renewable energy resources and GHG reduction targets. Further, CPUC Resolution E-5371 identified the project as an approved resource to fulfill a portion of SCE's long duration energy storage procurement obligation under the MTR program (CPUC 2025). Accordingly, the project would be consistent with the CPUC's MTR procurement requirements and would support the State's efforts in achieving the mandated emission reduction targets established by AB 32.

Overall, the improvements and tie-lines associated with the Whirlwind Substation would support implementation of California's RPS Program by facilitating the integration of renewable energy resources, improving grid reliability, and contributing to state-mandated procurement of long-duration energy storage resources. Therefore, the project would be consistent with the applicable objectives of the CARB Climate Change Scoping Plan, the RPS, and the CPUC's Mid-Term Reliability Program, and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, no impact would occur.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

No impact would occur.

4.6.5 Cumulative Setting, Impacts, and Mitigation Measures

As described in **Chapter 3**, *Project Description*, six cumulative projects are located within a six-mile radius of the project site, which is considered the geographic scope for evaluating cumulative impacts on energy resources. This geographic scope is appropriate because energy resources within the area are generally similar due to the proximity of the projects and access to the same regional energy resources and infrastructure. In addition, utility-scale energy projects in the area would support the State's renewable energy and GHG reduction goals by facilitating the generation, storage, and delivery of renewable energy resources within SCE's service boundaries.

Similar to the project, cumulative projects would require electricity and petroleum fuels during project implementation. Cumulative projects would be subject to applicable energy-efficiency regulations and policies, including Title 24 Building Energy Efficiency Standards and requirements for energy-efficient equipment and technologies, as applicable. Many of the cumulative projects would also result in a net gain in renewable energy or storage capacity, thereby offsetting emissions from construction and supporting statewide renewable energy objectives. The project would provide up to 9,200 MWh of battery energy storage capacity to facilitate the integration of renewable energy resources and improve grid reliability, while requiring minimal operational energy consumption. Therefore, the project would not result in wasteful, inefficient, or unnecessary energy consumption and would not have a cumulatively considerable contribution to energy impacts.

Consistent with the State's Climate Change Scoping Plan, RPS, and CPUC MTR procurement program, the project would support California's renewable energy, reliability, and GHG reduction goals. Similarly, many of the cumulative projects would contribute to these statewide objectives and would be required to comply with applicable energy efficiency standards and renewable energy policies. Accordingly, the project would not conflict with state or local plans for renewable energy or energy efficiency and would not result in a cumulatively considerable impact on energy. Therefore, cumulative impacts would be less than significant.

SCE Whirlwind Substation Upgrades

Cumulative impacts associated with the SCE Whirlwind Substation upgrades and tie-lines would be similar to those described above for the project. Although construction activities associated with the Whirlwind Substation upgrades and tie-lines would temporarily increase energy demand, the demand would cease upon completion of construction. In addition, construction contractors would be required to demonstrate compliance with applicable federal and state requirements related to fuel efficiency and energy conservation. Therefore, implementation of the upgrades and tie-lines would not result in wasteful, inefficient, or unnecessary energy consumption.

The Whirlwind Substation upgrades and tie-lines are necessary components of the project and would facilitate delivery and storage of renewable energy resources. As discussed above, the project was identified by the CPUC as an approved resource to satisfy a portion of SCE's long-duration energy storage procurement obligation under the MTR program. Accordingly, the project, including the Whirlwind Substation upgrades and tie-lines, would be consistent with the CPUC's MTR procurement requirements and would support the State's renewable energy, reliability, and GHG reduction objectives. Therefore, the upgrades and tie-lines would not result in a cumulatively considerable contribution to cumulative energy impacts. Therefore, cumulative impacts would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Cumulative impacts would be less than significant.

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Section 4.7

Geology and Soils

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Section 4.7
Geology and Soils

4.7.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the affected environment and regulatory setting for geology, soil resources, and paleontological resources. This section also describes the impacts on geologic and soil resources resulting from the implementation of the project and identifies mitigation measures that would reduce these impacts, if applicable.

The analysis in this section is largely based on the *Geotechnical Investigation Report* (**Appendix F1**) and the *Paleontological Resources Assessment Report* (**Appendix F2**) prepared for the project.

4.7.2 Environmental Setting

Regional Geologic Setting

Based on the California Department of Conservation Geologic Survey mapping, the project is situated in the western portion of the Mojave Desert Geomorphic Province (DOC 2002a). The Mojave Desert Geomorphic Province is a broad interior region of isolated mountain ranges separated by expanses of desert plains. The Mojave Desert province is wedged in a sharp angle between the Garlock Fault (southern boundary of the Sierra Nevada Province) and the San Andreas Fault, where it bends east from its northwest trend. The northern boundary of the Mojave Desert is separated from the prominent Basin and Range Geomorphic Province by the eastern extension of the Garlock Fault. The Transverse Ranges Geomorphic Province and Colorado Desert Geomorphic Province follow the San Andreas Fault southwest to form the western/southwestern boundary. The province ultimately terminates at the southeastern state line (DOC 2002b).

Local Geologic Setting

Soils and Topography

The project is located in the Antelope Valley in the western Mojave Desert, approximately 10 miles southeast of the Tehachapi Mountains. The project site has relatively flat terrain with elevations ranging from 2,764 to 2,827 feet above mean sea level. The approximately 120-acre project site consists of an undeveloped open desert scrub terrain generally with a 1 to 3 percent slope and bordered by open terrain except for the east boundary that abuts 170th Street West. High-voltage electric transmission infrastructure occurs on and adjacent to portions of the site. The Southern California Edison (SCE) Whirlwind Substation is located approximately 200 feet south of the site at closest approach.

The project area occurs near the toe of coalescing alluvial fans emanating from the Tehachapi Range to the west via Cottonwood Creek and smaller unnamed drainages. When surface water and sediment flows occur, sediments are deposited and aggregate in the project area as the steeper slopes to the west flatten into the gentle to nearly flat slopes closer to the project area.

Based on a review of regional geologic mapping in the vicinity of the site, the project site is underlain by modern (Holocene) alluvial deposits (map unit Qf) and late Holocene wash deposits (map unit Qw). Towards the west and northwest edge of the project site, near-surface geology consists of undifferentiated younger (Holocene to late Pleistocene) alluvial fan deposits (map unit Qyf) (**Figure 4.7-1,** *Geologic Map*). The geologic figures provided in the Geotechnical and Paleontological Reports prepared for the project (**Appendix F1** and **Appendix F2**, respectively) utilized an earlier release of the California Department of Conservation (DOC) data, while **Figure 4.7-1** below reflects a more recent update to the same source (DOC 2012). As a result, minor variations in mapped unit boundaries and geologic designations may occur in areas surrounding the project site; however, these differences do not affect the characterization of geologic conditions underlying the project site.

Soil conditions consist of interbedded layers of loose to medium dense poorly graded sand with silt, poorly graded sand, and silty sand to depths of approximately 4.5 to 9.5 feet. Below these depths, medium-dense poorly graded sand, poorly graded sand with silt, silty sand, and poorly graded sand with gravel were encountered to depths of approximately 16.5 to 28.5 feet. From approximately 16.5 to 28.5 feet to the maximum explored depth of 41.5 feet, soil consisted of medium-dense to dense poorly graded sand, poorly graded sand with gravel, poorly graded sand with silt, and silty sand.

Groundwater

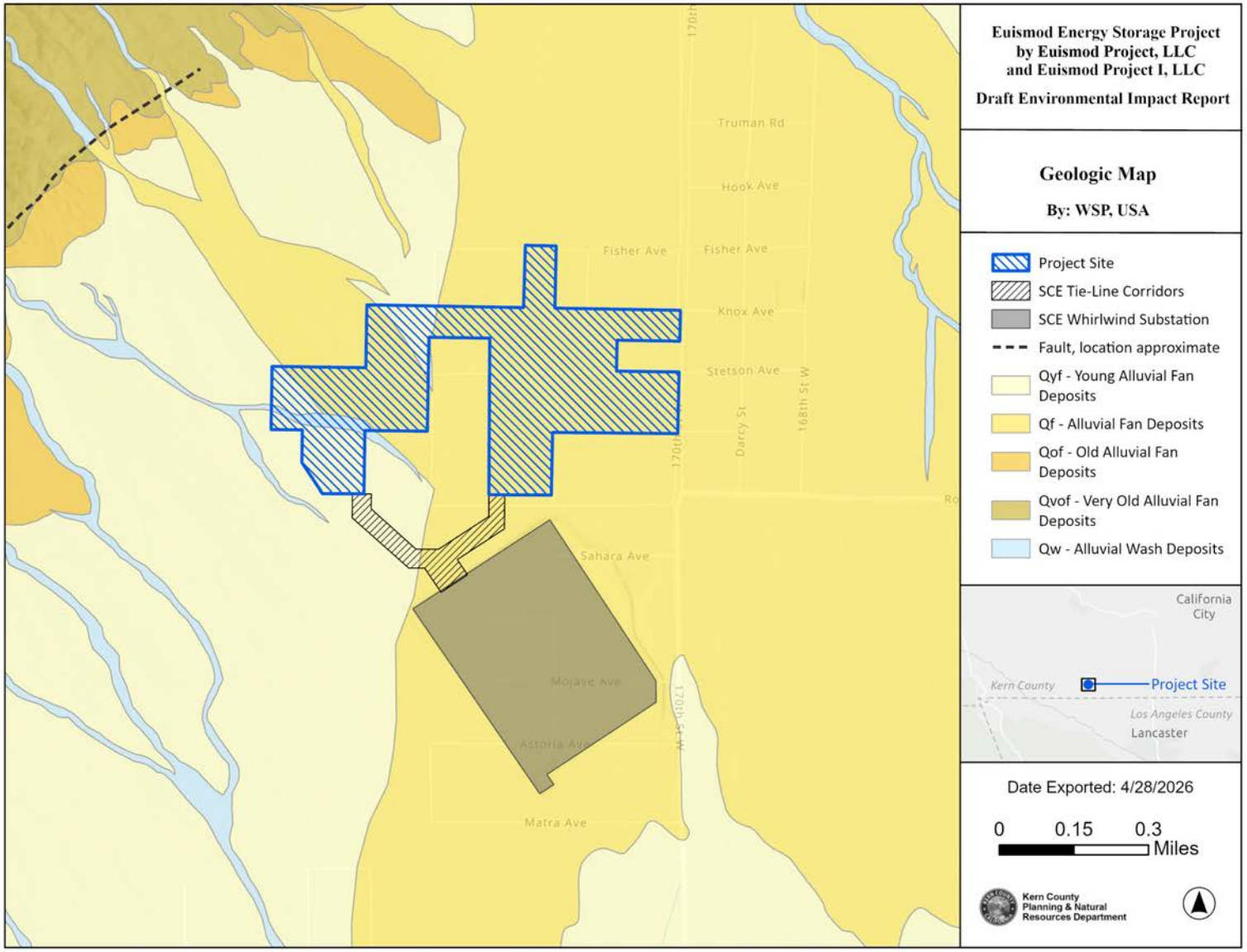
As further described in **Section 4.10**, *Hydrology and Water Quality*, the project site is located within the Antelope Valley Groundwater Basin (DWR Basin No. 6-44) of the South Lahontan Hydrologic Region. Groundwater conditions at the project site were evaluated based on subsurface investigations and available regional data. The California Geological Survey (CGS) does not map the project area as having historically high groundwater levels. Groundwater elevation data obtained from the State Water Resources Control Board's GeoTracker database indicate groundwater depths ranging from approximately 114.5 to 128.5 feet bgs at monitoring wells located approximately 15 miles east of the project site. Furthermore, based on the subsurface exploration conducted for the project, groundwater depth is anticipated to be approximately 41.5 feet bgs or greater.

Fault Rupture

A fault is a fracture in the Earth's crust where rocks or sediment on one side of the fault have moved relative to those on the other side. Faults are the result of excessive strain caused by compression or extension within the Earth's crust over time. A fault trace is the line on the Earth's surface representing the fault location. Ground surface rupture along an earthquake fault may cause damage to aboveground infrastructure and other features, and occurs when movement on a fault deep within the earth breaks through to the surface. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by ground shaking. Fault rupture is considered to most likely to occur along the identified traces of active faults (Bryant and Hart 2007).

Based on the U.S. Geological Survey (USGS) Quaternary Fault Database, the nearest active fault is the Garlock Fault and the San Andreas Fault Zone, located approximately 9 miles northwest and 11 miles southwest of the project site, respectively. These fault zones are classified as Latest Quaternary and Historic, exhibiting movement within the last 15,000 years and 150 years, respectively. A potentially active, unnamed fault is located approximately 1.5 miles northeast of the project site. The closest Alquist-Priolo fault hazard zone is approximately 9 miles away, associated with the Garlock Fault. Fault rupture through the site is therefore not anticipated.

Figure 4.7-1: Geologic Map



Ground Shaking

Faults within the vicinity of the project site have the potential to cause ground shaking at the project site. The magnitude of ground shaking that could occur on-site is dependent on the distance to causative faults and the earthquake magnitude (or measure of the amount of energy released during an earthquake event). **Table 4.7-1**, *Historic Earthquakes in Project Vicinity*, shows some of the significant historical earthquakes that have occurred in the region and their Richter scale magnitude. A significant earthquake is one that is deemed to have a magnitude of 7.0 or higher.

TABLE 4.7-1: HISTORIC EARTHQUAKES IN PROJECT VICINITY

Earthquake (Year)	Approximate Distance to Project Site (miles)	Earthquake Magnitude (Richter Scale)
Mojave (1992)	19	5.7
Kern County (1952)	54	7.5
Simi Valley (1994)	70	5.6
Ridgecrest (2019)	79	7.1, 6.4, and 5.4

Source: USGS 2026a.

Landslides

A landslide is the down-gradient movement of earth material along a slope or hillside. Landslides occur on slopes when geologic materials lose strength, and the force of gravity causes the material to move down-gradient. Earthquakes can induce landslides and mass wasting in areas that are susceptible. Landslides can result from a variety or combination of root causes such as steepness of slope, type of material, water content, amount and type of vegetation, and hazardous events (for example, earthquakes and floods). Steeper slopes and weaker rocks are the most vulnerable to landslide events.

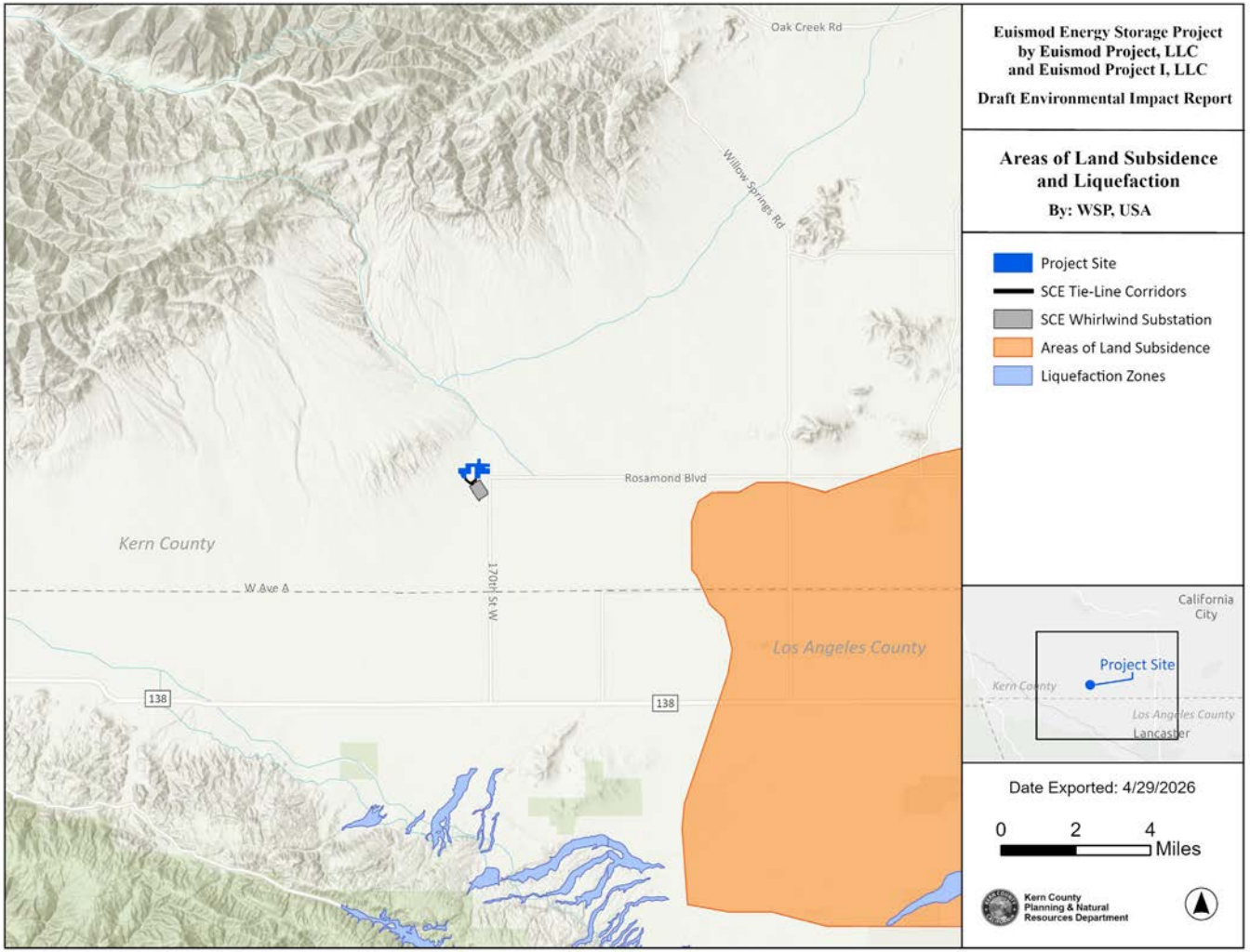
As described above, the project site is located in a relatively flat area and has not been mapped by the State of California for seismically induced landslide hazards. Therefore, the potential for landslides at the project site is considered low.

Liquefaction

Liquefaction is a type of ground failure resulting from the generation of high porewater pressures during earthquake ground shaking, causing loss of shear strength. Liquefaction is typically a hazard where loose sandy soils exist below groundwater. Liquefaction potential is considered highest when saturated loose soils are found within 50 feet of the ground surface. Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Research and historical data indicate that loose granular soils and non-plastic silts that are saturated by a relatively shallow groundwater table are susceptible to liquefaction.

Zones of Required Investigation, referred to as “Seismic Hazard Zones” in California Code of Regulations (CCR) Article 10, Section 3722, are areas where site investigations are required to determine the need for mitigation of potential liquefaction and/or earthquake-induced landslide ground displacements. As presented in **Figure 4.7-2,** *Areas of Land Subsidence and Liquefaction*, the DOC has not mapped Seismic Hazard Zones for the project site (DOC 2026). Furthermore, based on the geotechnical investigation report prepared for the project, the subsurface soils encountered and deeper groundwater levels do not indicate the potential for liquefaction to occur.

Figure 4.7-2: Areas of Land Subsidence and Liquefaction



Soil Erosion

Soil 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 subsurface water flow. Excessive soil erosion can eventually lead to damage to 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. There are many factors contributing to soil erosion. High soil erodibility contributes to high erosion rates. Soils containing high silt content have the highest soil erodibility since they are easily detached, tend to crust, and produce high rates of runoff. Coarse-textured soils, or sandy soils, are easily detached, but typically do not produce a lot of runoff, so they have low soil erodibility.

Subsurface conditions of the project site generally consist of sandy soils, which typically resist erosional forces. However, near-surface soils tend to be loose, which may increase the risk of erodibility higher in the profile. These conditions can be addressed through over-excavating, recompacting, and replacing the excavation with compacted fill materials for areas that would support improvements on shallow foundations.

Subsidence

Subsidence is characterized as a sinking of the ground surface relative to surrounding areas. Four types of subsidence currently occur in Kern County. Tectonic subsidence refers to the long-term slow sinking of the land surface. Subsidence can also occur naturally when moisture-deficient soils are exposed to water, which causes collapse. Subsidence has also been caused by human activities, including the extraction of oil and gas and the withdrawal of groundwater.

The USGS California Water Science Center documents historical and current areas of land subsidence. Specific areas identified as experiencing subsidence within Kern County primarily occur to the southeast of the project site near the cities of Rosamond and Lancaster. As shown in **Figure 4.7-2,** *Areas of Land Subsidence and Liquefaction*, the project site is not within an area of recorded historical or current subsidence due to groundwater pumping (USGS 2026b).

Soil Collapse

Collapsible soils consist of loose, dry, low-density materials that collapse, compact, and change in settlement under the addition of water or excessive loading, often resulting in severe damage to structures. These soils are distributed throughout the southwestern United States, specifically in areas of young alluvial fans, debris flow sediments, and loess (wind-blown sediment) deposits. The geotechnical investigation report prepared for the project indicates loose near-surface granular soils, which have the potential to be collapsible soils. These conditions have a minor impact on the design and would be addressed by excavating, recompacting, and replacing potentially collapsible soils with compacted fill materials in areas designated for improvements on shallow foundations.

Expansive Soils

Expansive soils contain clay types capable of absorbing water in a manner that results in volumetric changes. Over long-term periods of cyclical changes in water content, these volumetric changes can cause damage to foundations, retaining walls, sidewalks, and roadways. Based on the geotechnical investigation

report prepared for the project, the near-surface soils encountered were composed of loose sand. Swelling of the soils is not anticipated due to the low expansion potential of these sandy soils.

Paleontological Resources

Paleontological resources are the mineralized (fossilized) remains of prehistoric plants and animals, and the mineralized impressions (trace fossils) left as indirect evidence of the forma and activity of such organisms. These resources are located within sedimentary rocks or alluvium and are considered to be nonrenewable.

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 (e.g., 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.

To determine the paleontological sensitivity of the project site, a paleontological resources inventory was conducted for the project. The inventory consisted of a Natural History Museum of Los Angeles County (LACM) paleontological records search, as well as a review of geological mapping and paleontological literature.

As previously mentioned, the project site lies within the northwest edge of the Antelope Valley in the Western Mojave Desert. As presented in **Figure 4.7-1**, *Geologic Map*, the project site is predominantly underlain by modern alluvial fan deposits (Holocene) (map unit Qf). Additionally, the SCE Whirlwind Substation and eastern tie-line corridor are underlain by modern alluvial fan deposits (Holocene). Areas near the west and northwest edge of the project site and at the western tie-line are identified as map unit Qyf, which indicates younger alluvial fan deposits (Holocene to late Pleistocene) (map unit Qyf). There is also a narrow area of Alluvial Wash Deposits (late Holocene) (map unit Qw) near the western portion of the project site. Alluvial deposits beneath the project site are thick, and older sedimentary horizons are present below the surface units.

Ultimately, the paleontological potential is determined based on known fossil localities within a given geologic unit, or the potential for future fossil discoveries, or both, given the age and depositional environment of a particular geologic unit. While the potential for paleontological resources to occur beneath alluvial deposits is generally too young, the potential for occurrence increases with depth below the Holocene deposits and into the older sedimentary horizons. Pleistocene deposits have the potential for the occurrence of significant paleontological resources.

To satisfy the requirements of state guidelines (Title 13, Public Resources Code [PRC] Section 21000 et. seq.) and PRC Section 5097.5 (Stats 1965, c 1136, p. 2792), the following definitions for high, undetermined, low, and no paleontological resource potential, or sensitivity were used, as set forth in and by the Society of Vertebrate Paleontology's (SVP) *Best Practice Guidelines for Mitigation of Adverse Impacts on Paleontological Resources* (SVP 2025).

High Potential Areas

Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rock units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations and some volcaniclastic formations (e.g., ashes or tephras), low-grade metamorphic rocks that contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (for example, middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, and fine-grained marine sandstones).

Undetermined Potential

Rock units with little available information concerning their paleontological content, geologic age and depositional environment are considered to have undetermined potential. Additional study is necessary to determine if these rock units have a high or low potential to contain significant paleontological resources. A field survey by a qualified professional paleontologist to determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed. In cases where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.

Low Potential

Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow for a determination that some rock units have a low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus, and only preserve fossils in rare circumstances. For these rock units, the presence of fossils is the exception, not the rule. Rock units with low potential typically will not require impact mitigation measures to protect fossils. Examples of rock units with low potential for exhibiting significant fossils include those resulting from basalt flows or consisting of recent colluvium.

No Potential

Some rock units have no potential to contain significant paleontological resources, for instance, high-grade metamorphic rocks (for example, gneisses and schists) and plutonic igneous rocks (for example, granites and diorites). Rock units with no potential require no protection or mitigation measures relative to paleontological resources.

Existing Paleontological Resources

A paleontological resources inventory was conducted to determine the paleontological sensitivity of the project site in compliance with the California Environmental Quality Act (CEQA) and SVP (SVP 2025) guidelines. The results of the paleontological records search were negative for paleontological resources within the project site; however, the LACM reported four known fossil localities near the project site, as further described in **Table 4.7-2**, *Paleontological Records Search.*

TABLE 4.7-2: PALEONTOLOGICAL RECORDS SEARCH

Taxa	Formation	Location	Depth
Camel	Unknown, Pleistocene	10 miles east-northeast[1]	21 ft bgs
Various small mammals, reptiles and fish	Unknown, Pleistocene siltstone	20 miles east-southeast	3-11 ft bgs
Camel	Unknown, Pleistocene	21 miles southeast	4 ft bgs
Horse	Unknown, Pleistocene	20 miles north[1]	Unknown

Notes:

[1] Estimated from the general location reported in the record search results.

Key: ft bgs = feet below ground surface

Source: Paleontological Resources Assessment Report (**Appendix F2**)

4.7.3 Regulatory Setting

Geologic resources and geotechnical hazards are governed primarily by local jurisdictions. The conservation elements and seismic safety elements of city and county general plans contain policies for the protection of geologic features and the avoidance of hazards.

CEQA is the major environmental statute that guides the design and construction of projects on nonfederal lands in California. This statute establishes a specific process for environmental impact analysis and public review. In addition, the project proponents must comply with other applicable federal, state, and local statutes, regulations, and policies. Relevant and potentially relevant statutes, regulations, and policies are discussed below.

Federal

Clean Water Act (Erosion Control)

The federal Clean Water Act (CWA; 33 United States Code [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 (Construction General Permit), Order No. 2009-0009-DWQ. The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which includes best management practices (BMPs) to regulate stormwater runoff, including measures to prevent soil erosion. Requirements of the CWA and associated SWPPP are described in further detail in **Section 4.9**, *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. NEHRP designates the Federal Emergency Management Agency 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 the protection of historic landmarks, historic and prehistoric structures, as well as other objects of historic or scientific interest on federally administered lands, the latter of which would include fossils. The Antiquities Act both establishes a permit system for the disturbance of any object of antiquity on federal land and also sets criminal sanctions for violation of these requirements. The Antiquities Act was extended to specifically apply to paleontological resources by the Federal-Aid Highways Act of 1958. More recent federal statutes that address the preservation of paleontological resources include the National Environmental Policy Act, which requires the consideration of important natural aspects of national heritage when assessing the environmental impacts of a project (P.L. 91-190, 31 Stat. 852, 42 U.S.C. 4321–4327). The Federal Land Policy Management Act of 1976 (P.L. 94-579; 90 Stat. 2743, U.S.C. 1701–1782) requires that public lands be managed in a manner that will protect the quality of their scientific values, while Title 40 Code of Federal Regulations Section 1508.2 identifies paleontological resources as a subset of scientific resources. The Paleontological Resources Preservation Act (Title VI, Subtitle D of the Omnibus Land Management Act of 2009) is the primary piece of federal legislation.

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 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 CGS 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 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 CGS is directed to delineate seismic hazard zones. The purpose of the act is to reduce the threat to public health and safety and minimize the loss of life and property by identifying and mitigating seismic hazards, such as those associated with strong ground shaking, liquefaction, landslides, other ground failures, or other hazards caused by earthquakes. Cities, counties, and state agencies are directed to use seismic hazard zone maps developed by the CGS in their land use planning and permitting processes. In accordance with the Seismic Hazards Mapping Act, site-specific geotechnical investigations must be performed prior to permitting most urban development projects within seismic hazard zones.

California Integrated Seismic Network

The California Integrated Seismic Network (CISN) was formed in November 2000 to operate a reliable, modern, statewide system for earthquake monitoring, research, archiving, and distribution of information to benefit public safety, emergency response, and loss mitigation. The CISN seeks to mitigate the impact of future earthquakes by collecting, processing, and disseminating critical earthquake information in a timely manner.

Six organizations collaborate in the CISN to monitor earthquakes and collect data to support improvements to earthquake resilience. Core members of the CISN are the CGS, California Institute of Technology Seismological Laboratory, University of California–Berkeley Seismological Laboratory, USGS Menlo Park, USGS Pasadena, and the California Governor's Office of Emergency Services. The CISN has three management centers with different responsibilities:

- Southern California Earthquake Management Center: California Institute of Technology and USGS Pasadena
- Northern California Earthquake Management Center: University of California–Berkeley and USGS Menlo Park
- Center for Engineering Strong Motion Data

The Northern and Southern California Earthquake Management Centers are twin earthquake processing centers. The engineering earthquake management center is primarily responsible for producing engineering data products.

California Building Code

The California Building Code (CBC), which is codified in Title 24 of the CCR, Part 2, was promulgated to safeguard public health, safety, and general welfare by establishing minimum standards related to structural strength, means of egress facilities, and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. Title 24 is administered by the California Building Standards

Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure, or any appurtenances connected or attached to such buildings or structures throughout California.

The 2022 edition of the CBC is based on the 2021 International Building Code published by the International Code Council. The code is updated triennially, and the 2022 edition of the CBC was published by the California Building Standards Commission in July 2022 and took effect January 1, 2023.

The 2022 CBC 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 consider 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 (Section 1806), as well as foundations (Section 1808), shallow foundations (Section 1809), and deep foundations (Section 1810). For Seismic Design Categories D, E, and F, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. It also addresses measures to be considered in structural design, which may include ground stabilization, selecting appropriate foundation type and depths, selecting appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific, peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions.

Chapter 18 also describes the analysis of expansive soils and the determination of the depth to the 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 PRC Sections 5097.5 and 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 (e.g., state, county, city, district) lands.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, in cooperation with the CWA, established the State Water Resources Control Board (SWRCB). The SWRCB and the nine Regional Water Quality Control Boards (RWQCBs) are responsible for protecting California's surface water and groundwater supplies. Section 13000 of the Act directs each RWQCB to develop Water Quality Control Plans for all areas in its region, to designate the beneficial uses of California's rivers and groundwater basins; these plans are the basis for each board's regulatory program.

The Basin Plan gives direction on the beneficial uses of state waters in Region 7, describes the water quality that must be maintained to support such uses, and includes programs, projects, and other actions necessary to achieve the standards established in the Basin Plan. The Colorado River RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges may affect water quality. These requirements are state Waste Discharge Requirements for discharge to land or federally delegated NPDES permits for discharges to surface water. Responsibility for implementing CWA Sections 401, 402, and 303(d) is also outlined in the Porter-Cologne Water Quality Control Act.

State Regional Water Quality Control Board, Stormwater General Construction Permit

The five-member SWRCB allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine RWQCBs in the major watersheds of the state. The joint authority of water allocation and water quality protection enables the SWRCB to provide comprehensive protection for California's waters.

In 1999, the state adopted the Construction General Permit (SWRCB Order No. 2012-0006-DWQ, NPDES No. CAS000002). The Construction General Permit requires that construction sites with 1 acre or greater of soil disturbance, or less than 1 acre but part of a greater common plan of development, apply for coverage for discharges under the Construction General Permit by submitting a Notice of Intent for coverage, developing a SWPPP, and implementing BMPs to address construction site pollutants.

The SWPPP should contain a site map(s) that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list the BMPs the discharger will use to protect stormwater runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP. Enrollment under the Construction General Permit is through the Stormwater Multiple Application and Report Tracking System. Additionally, the SWRCB is responsible for implementing the CWA and issues NPDES permits to cities and counties through the individual regional boards.

California Environmental Quality Act

Appendix G of the State CEQA Guidelines (CCR Title 14, Chapter 3) provides an Environmental Checklist of questions intended to guide analysis pertaining to project-level impacts to geology and soils and paleontological resources. For purposes of the Environmental Checklist, CEQA does not define "a unique paleontological resource or site." However, the SVP has defined a "significant paleontological resource" in the context of environmental review. The SVP defines a Significant Paleontological Resource as: Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) [p. 11] (SVP 2010).

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to geology and soils. The goals, policies, and implementation measures in the Kern County General Plan (KCGP) and the Willow Springs Specific Plan related to geology and soils that are applicable to the project are provided below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for geology and soils applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

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

1.3 Physical and Environmental Constraints

Goals

Goal 1: To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.

Policies

Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 [Seismic Hazard], Map Code 2.2 [Landslide], Map Code 2.3 [Shallow Groundwater], Map Code 2.5 [Flood Hazard], Map Codes from 2.6 – 2.9, Map Code 2.10 [Nearby Waste Facility], and Map Code 2.11 [Burn Dump Hazard]) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.

Implementation Measures

Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize permitted topographic alteration and soil erosion while maintaining soil stability.

Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

Policies

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 M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Chapter 4: Safety Element

Goals

Goal 1: Minimize injuries and loss of life and reduce property damage.

4.3 Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure

Policies

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.

Implementation Measures

Measure D: Discretionary actions will be required to address and mitigate impacts from inundation, land subsidence, landslides, high groundwater areas, liquefaction and seismic events through the CEQA process.

Willow Springs Specific Plan

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). 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 KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for geology and soils applicable to the project are provided below. The Willow Springs Specific Plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated in **Chapter 2**, *Introduction*, all goals, policies, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Seismic/Safety Element

Goals

Goal 12: To reduce economic and social disruption resulting from earthquakes and various other geological hazards by assuring the continuity of vital services and functions.

Policies

Policy 7: Compliance with site-specific issues, goals, policies, and implementation measures contained in the Seismic/Safety Element of the Kern County General Plan.

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.

Implementation Measures

Measure 18: Any projects identified with problems relating to shallow groundwater or landslide prone are required to be evaluated in a report and certified in writing by a qualified professional (in the field). The report shall be submitted to the Department of Planning and Development Services for review and approval.

Measure 19: All final map subdivisions are required to prepare a geologic hazards analysis to determine what mitigation measures may be necessary to ensure the project is suitable for its intended use.

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 (County) has adopted the CBC 2022 Edition, with some modifications and amendments. The entire County is in Seismic Zone 4, a designation previously used in the UBC to denote the areas of highest risk for earthquake ground motion. California has an unreinforced masonry program that details seismic safety requirements for Zone 4. Seismic provisions associated with Seismic Zone 4 have been adopted.

Chapter 17.28. Kern County Grading Code

The purpose of the Kern County Grading Code (Chapter 17.28, *Building Code*, of the Kern County Code of Regulations) sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments; establishes the administrative procedure for issuance of permits; and provides for approval of plans and inspection of grading construction. Sections of the Grading Code that are particularly relevant to geology and soils are provided below.

Section 17.28.140. Erosion Control

A. Slopes. The faces of cut-and-fill slopes shall be prepared and maintained to control erosion. This control may consist of effective planting. Protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.

B. Other Devices. Where necessary, check dams, cribbing, riprap, or other devices or methods shall be employed to control erosion and provide safety.

C. Temporary Devices. Temporary drainage and erosion control shall be provided as needed at the end of each workday during grading operations, such that existing drainage channels would not be blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust nuisance. Deposition of rocks, earth materials or debris onto adjacent property, public roads or drainage channels shall not be allowed.

Section 17.28.170. Grading Inspection

A. General. All grading operations for which a permit is required shall be subject to inspection by the building official. Professional inspection of grading operations and testing shall be provided by the civil engineer, soils engineer, and the engineering geologist retained to provide such services in accordance with Subsection 17.28.170(E) for engineered grading and as required by the building official for regular grading.

B. Civil Engineer. The civil engineer shall provide professional inspection within such engineer's area of technical specialty, which shall consist of observation and review as to the establishment of line, grade, and surface drainage of the development area. If revised plans are required during the course of the work they shall be prepared by the civil engineer.

C. Soils Engineer. The soils engineer shall provide professional inspection within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The soils engineer shall provide sufficient observation during the preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. Revised recommendations relating to conditions differing from the approved soils engineering and engineering geology reports shall be submitted to the permittee, the building official and the civil engineer.

D. California Geotechnical Engineer. The California geotechnical engineer 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 geotechnical report shall be submitted to the soils engineer.

E. Permittee. The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this Code, and the permittee shall engage consultants, if required, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the consultants, the contractor and the building official. In the event of changed conditions, the permittee shall be responsible for informing the building official of such change and shall provide revised plans for approval.

F. Building Official. The building official may inspect the project at the various stages of the work requiring approval to determine that adequate control is being exercised by the professional consultants.

G. Notification of Noncompliance. If, in the course of fulfilling their responsibility under this chapter, the civil engineer, the soils engineer, or the engineering geologist finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately in writing to the permittee and to the building official. Recommendations for corrective measures, if necessary, shall also be submitted.

H. Transfer of Responsibility. If the civil engineer, the soils engineer, or the engineering geologist of record is changed during the course of the work, the work shall be stopped until:

   1. The civil engineer, soils engineer, or engineering geologist has notified the building official in writing that they will no longer be responsible for the work and that a qualified replacement has been found who will assume responsibility.

   2. The replacement civil engineer, soils engineer, or engineering geologist notifies the building official in writing that they have agreed to accept responsibility for the work.

Kern County Water Quality Control Plan

Each of the nine RWQCBs adopts a Water Quality Control Plan which recognizes and reflects regional differences in existing water quality, the beneficial uses of the region's groundwater and surface waters, and local water quality conditions and problems. Water quality problems in the regions are listed in these plans, along with the causes, if they are known. Each RWQCB is to set water quality objectives that will ensure the reasonable protection of beneficial uses and the prevention of nuisance, with the understanding that water quality can be changed somewhat without unreasonably affecting beneficial uses.

The Kern County Engineering and Survey Services Department requires the completion of an NPDES applicability form for all construction projects disturbing one or more acres within Kern County. This form requires the applicant to provide background information on construction activities. Applicants must apply for the permit under one of the following four conditions:

1. *All storm water is retained on-site and no storm water runoff, sediment, or pollutants from on-site construction activity can discharge directly or indirectly offsite or to a river, lake, stream, municipal storm drain, or offsite drainage facilities.*
2. *All storm water runoff is not retained on site but does not discharge to a Water of the United States (i.e. drains to a terminal drainage facility). Therefore, a SWPPP has been developed and BMPs must be implemented.*
3. *All storm water runoff is not retained on site, and the discharge is to a Water of the United States. Therefore, a Notice of Intent (NOI) must be filed with the State Regional Water Resources Control Board prior to issuance of the building permit. Also, a SWPPP has been developed and BMPs must be implemented.*
4. *Construction activity is between 1 to 5 acres, and an Erosivity Waiver was granted by the SWRCB. BMPs must be implemented.*

Kern County Public Health Services On-Site Wastewater Treatment System Permitting

The Kern County Public Health Services Department is responsible for permitting, inspecting, and approving on-site wastewater treatment systems, including septic tank wastewater disposal systems. The agency provides leach line requirements, seepage pit requirements, percolation testing standards, and other regulations for land development related to wastewater treatment systems.

4.7.4 Impacts and Mitigation Measures

Methodology

The analysis in this section is largely based on a review of the *Geotechnical Investigation Report* (**Appendix F1**) and the *Paleontological Resources Assessment Report* (**Appendix F2**) prepared for the project, and available online resources. These resources present findings, conclusions, and recommendations concerning the development of the project based on an engineering analysis of the geotechnical properties of the subsurface conditions and evaluation of the underlying soils. The resources for geology, soils, and geologic hazards were evaluated within the context of applicable federal, state, and local regulations, standards, and policies.

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). 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 that 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:

   i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;

   ii. Strong seismic ground shaking;

   iii. Seismic-related ground failure, including liquefaction; or

   iv. Landslides.

b. Result in substantial soil erosion or the loss of topsoil;

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;

d. Be located on expansive soil, as defined in Table 18-1-B of the UBC (1994), creating substantial risks to life or property;

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater; or

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Project Impacts

Impact 4.7-1: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo earthquake fault zoning map issued by the State geologist for the area or based on other substantial evidence of a known fault.

The project is not located within or near a State of California Alquist-Priolo Earthquake Fault Zone; however, as discussed above, there are several active earthquake faults in the vicinity of the project site. The nearest active faults are the Garlock Fault and the San Andreas Fault Zone, located approximately 9 miles northwest and 11 miles southwest of the project site, respectively. Due to the distance between the surrounding fault lines and the project site, the potential for surface fault rupture at the project site is considered low.

Further, construction of the project would be required to comply with applicable provisions of the Kern County Building Code (Chapter 17.08), which adopts the CBC 2022 Edition (CCR Title 24). The CBC mostly incorporates the same requirements as the International Building Code (2018 Edition), with modifications and amendments specific to the County. All grading and construction onsite would comply with the seismic recommendations provided by the California registered and licensed geotechnical engineer in accordance with California and Kern County Building Code requirements. These requirements would ensure that project structures comply with minimum standards related to structural strength and general stability. Adherence to all applicable regulations would mitigate any potential fault rupture-related impacts associated with the project

Potential impacts during project decommissioning would be similar to those during construction. A Decommissioning Plan would be prepared and implemented at the end of the project's operational life (35 years). The Decommissioning Plan would specify all requirements necessary for compliance with applicable local, state, and federal regulations. Thus, any potential decommissioning impacts would be less than significant.

Project operations would primarily involve aboveground activities, including security, vegetation management, and facility maintenance and repairs as needed. Trenching and excavation may be needed to remove and replace equipment for maintenance purposes. However, these ground-disturbing activities are unlikely to induce a seismic event. Adherence to all applicable regulations would ensure that any potential fault rupture impacts associated with project construction, operation, and decommissioning activities would be addressed. Therefore, impacts would be less than significant.

SCE Whirlwind Substation Upgrades

The project includes two 220-kV overhead tie-lines to the SCE Whirlwind Substation located on the adjacent parcels south of the project site. SCE's work activities outside of the Whirlwind Substation, including tie-line access clearing, installation of telecommunications lines, installation of tie-line support poles or towers, stringing of overhead conductors, and operation and maintenance of the tie-lines to the Point of Change of Ownerships, would disturb all land within a 100-foot-wide corridor centered on each of the offsite tie-line alignments. Within the existing Whirlwind Substation, each tie-line would require the installation of facilities for a new 220 kV switch rack and line positions to terminate the tie-lines and

telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3.0**, *Project Description*.

As stated above, the project site, including the Whirlwind Substation and tie-line corridors, is not located within a State-designated Alquist-Priolo Earthquake Fault Zone and the potential for surface fault rupture is low. As such, the upgrades would not directly or indirectly result in substantial adverse effects from ground shaking. Additionally, SCE would comply with all applicable State and federal laws and regulations, including building design regulations to avoid impacts from seismically induced ground shaking. Thus, potential impacts related to fault rupture and seismic hazards would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.7-2: The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, seismic-related ground failure, including liquefaction or landslides.

The project is located in a seismically active region that could experience one or more substantive seismic events in the future. Depending on the magnitude, distance to the source, and duration of shaking, there would be a risk of damage to project facilities and injury to workers or visitors during construction, operations, and decommissioning. The risk of a substantial seismic event occurring during the two year construction period, or the shorter decommissioning period, is low, and the project would not establish a long-term on-site population beyond the approximate six full-time employees and four to six part-time employees during operations and maintenance.

Furthermore, prior to the issuance of grading permits, the project proponent would be required to design project infrastructure to withstand probable seismically induced ground shaking in accordance with all applicable ordinances of the Kern County Building Code (Chapter 17.08) and the current CBC. Considering the County and CBC design measures for seismic stability, the project would be expected to result in impacts that are less than significant.

To further reduce potential hazards**, MM 4.7-1** and **MM 4.7-2** would be implemented. These measures involve preparing a final engineering design geotechnical study, incorporating the recommended measures to minimize geologic hazards, and retaining a California-registered and licensed geotechnical engineer to prepare the final project facility design to withstand probable seismically induced ground shaking at the site.

All on-site grading during construction would adhere to the specifications, procedures, and site conditions contained in the final design plans, which would be fully compliant with the seismic recommendations provided by the California-registered and licensed geotechnical engineer in accordance with California and Kern County Building Code requirements. These requirements would ensure that project structures comply with minimum standards related to structural strength and general stability. Additionally, a Decommissioning Plan would be prepared and implemented, which would specify all requirements necessary for compliance with applicable local, state, and federal regulations. Adherence to all applicable

regulations would address potential risks associated with strong seismic ground shaking and seismic-related ground failure. Thus, any potential decommissioning impacts would be less than significant.

Based on the existing geotechnical conditions of the site and the historical depth to groundwater, the potential liquefaction hazard is considered low. The project is not expected to expose people or structures to potentially substantial effects involving seismic-related ground failure, including liquefaction. Implementing **MM 4.7-1** and **MM 4.7-2** would further reduce the potential for impacts. These measures include preparing a final geotechnical study and incorporating recommendations from this study to minimize geologic hazards. Project conformance with the building code requirements and geotechnical engineer recommendations identified in the final geotechnical study would further address potential impacts related to seismic shaking. Liquefaction is not a foreseeable concern for this project based on geotechnical conditions and depth to groundwater.

The project site has relatively flat and featureless terrain with elevations ranging from 2,764 to 2,827 feet above mean sea level. The project site is approximately 10 miles southeast of the Tehachapi Mountains, which extend to approximately 4,000 feet above the valley floor. Thus, given the relatively flat terrain and distance to the surrounding mountain ranges, the potential for landslides on the project site is considered low. The project is not expected to expose people or structures to potentially substantial effects involving seismic-related ground failure, including landslides. Impacts would be less than significant.

SCE Whirlwind Substation Upgrades

The SCE Whirlwind Substation and the tie-lines would be primarily unmanned, and damage to these facilities would not expose a substantial number of people to potential adverse effects due to strong seismic ground shaking. Due to the existing conditions, the potential for liquefaction and landslide is considered to be low. SCE upgrades would be constructed in accordance with all applicable State and federal laws and regulations, including building codes and earthquake-safe designs. Thus, potential impacts related to seismic ground shaking, seismic-related ground failure, including liquefaction and landslides, would be less than significant.

Mitigation Measures

Implementation of **MM 4.7-1** and **MM 4.7-2** would be required.

MM 4.7.1: Prior to the issuance of grading or building permits, the project proponent shall conduct a final engineering design specific geotechnical study in accordance with applicable ordinances of the Kern County Building Code (Chapter 17.08) and the CBC to evaluate soil conditions and geologic hazards on the project site and submit it to the Kern County Public Works Department for review and approval.

The project proponent shall determine the final siting of project facilities based on the results of the site-specific final geotechnical study and implement recommended measures to minimize geologic hazards. The project proponent shall not locate project facilities on or immediately adjacent to an active fault trace.

MM 4.7-2: Prior to the issuance of grading permits, the project proponent shall retain a California-registered and licensed geotechnical engineer to design project facilities to withstand probable seismically induced ground shaking at the site. All grading and construction on-site shall adhere to the specifications, procedures, and site conditions contained in the final design plans, which shall be fully compliant with the seismic recommendations of the California-registered professional engineer. The Kern County Public Works Department shall evaluate any final facility siting design

developed prior to the issuance of any grading or building permits to verify that geological constraints have been avoided. Additionally, structures supported on a shallow foundation system should bear on engineered fill extending to a depth determined by a California-registered and licensed geotechnical engineer, based on site-specific conditions.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.7-3: The project would result in substantial soil erosion or the loss of topsoil.

Erosion and sedimentation are natural processes that occur on slopes, hillsides, and natural drainages. Although the project site is primarily flat, it lacks development, consists of loose sandy soils, and has minimal vegetation. There are also eight ephemeral features within the project site, including the SCE Whirlwind Substation and tie-line corridors. All drainage features generally flow from the west and north of the site to the southeast. On-site drainage only conveys surface flow in direct response to heavy precipitation events. The project could temporarily or permanently impact these hydrologic features and could make the project site susceptible to soil erosion.

Construction activities, including grading and excavating, would loosen on-site soils and remove stabilizing vegetation, thereby exposing new areas of loose soil. These areas, if not properly stabilized and designed, could be subject to substantial soil loss and erosion by wind and stormwater runoff. Adhering to the requirements of the Kern County Grading Code and the resulting measures designed to prevent erosion and control drainage on-site would minimize the potential for substantial soil erosion. Further, the project would prepare and implement a SWPPP pursuant to the Construction General Permit consistent with **MM 4.10-1** (see **Section 4.10**, *Hydrology and Water Quality)*. BMPs identified in the SWPPP would include methods for erosion and sediment control, such as minimizing disturbance, stabilizing exposed soils, managing stockpiles, and maintaining drainage conveyance to prevent sediment from leaving disturbed areas during construction. The implementation of **MM 4.10-1** would minimize potentially significant impacts related to soil erosion.

In addition, per **MM 4.7-1**, the project proponent would be required to submit a final geotechnical study to the Kern County Public Works Department, inclusive of a geotechnical study signed by a California-registered and licensed professional geotechnical engineer or engineering geologist, pursuant to the Kern County Building Code (Section 17.08). The project proponent would incorporate the recommendations from the study into the final project design to obtain the building and grading permits. Compliance with this mitigation measure and performance standards within the Grading Code would ensure that substantial soil erosion or the loss of topsoil would not result. As a result, project construction would have less than significant impacts related to erosion.

Potential impacts during project decommissioning would be similar to those during construction. A Decommissioning Plan would be prepared and implemented, which would specify all requirements necessary for compliance with applicable local, state, and federal regulations, including the implementation of a SWPPP (**MM 4.10-1**). Thus, any potential decommissioning impacts would be less than significant.

Project operations would primarily involve aboveground activities, including security, vegetation management, and facility maintenance and repairs as needed. Trenching and excavation may be needed to remove and replace equipment for maintenance purposes, which could result in soil erosion. However, these

ground-disturbing activities are not expected to create substantial erosion or result in the loss of topsoil, as areas for maintenance are expected to be minimal and would be returned to pre-maintenance conditions.

SCE Whirlwind Substation Upgrades

Construction activities associated with the tie-lines would require clearing, minor grading, and excavation, which could contribute to loss of topsoil and erosion. The removal of the existing minimal vegetation cover could also contribute to soil loss and erosion. SCE would implement soil erosion prevention measures and BMPs during construction. SCE would comply with all applicable State and federal laws and regulations, including those regarding soil erosion and loss of topsoil prevention. Thus, potential impacts related to soil erosion would be less than significant.

Mitigation Measures

Implementation of **MM 4.7-1, MM 4.7-2**, and **MM 4.10-1** (see **Section 4.10**, *Hydrology and Water Quality*) would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.7-4: 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.

The *Geotechnical Investigation Report* prepared for the project (**Appendix F1**) concluded that the liquefaction potential on the project site is low based on the groundwater depth in the area. This assessment is based on the groundwater depth, which is reported to be greater than approximately 40 feet bgs, and subsurface conditions observed during the field investigation. Consequently, the relatively flat topography, combined with the low potential for liquefaction to occur, suggests there is a minimal risk for lateral spreading.

There is currently no known evidence of subsidence at the project site. However, the loose surficial soils (alluvial deposits) present may be subject to seismic settlement during a nearby seismic event. In some areas of the project site, soils within the upper 5 feet may have low to moderate collapse potential. Despite this, these conditions are expected to have a minor impact on design and can generally be addressed through remedial grading, which involves removing and replacing potentially collapsible soils beneath shallow concrete foundations. Further, the preparation of a design-level geotechnical study, as required by **MM 4.7-1**, along with compliance with all applicable building, grading, and construction codes, ordinances, and standards, as required by **MM 4.7-2,** would confirm site suitability. Implementing these measures would also provide final design and construction recommendations consistent with the Kern County Building Code and the latest version of the CBC. The preparation and implementation of the project's Decommissioning Plan would ensure that all applicable regulations are adhered to during the decommissioning phase. With the implementation of a Decommissioning Plan and **MM 4.7-1** and **MM 4.7-2**, potential impacts would be less than significant.

SCE Whirlwind Substation Upgrades

As stated previously, SCE work would not be susceptible to landslides, lateral spreading, subsidence, liquefaction, or collapse due to the relatively flat topography and groundwater depth in the area. Work at the Whirlwind Substation would be within existing engineered soils and subgrade and tie-line support structure foundations between the project site and the Whirlwind Substation would require deeper foundations that would be designed to accommodate site-specific soil conditions. Geological hazard prevention measures and BMPs would be implemented during SCE work. SCE would comply with all applicable State and federal laws and regulations, including those regarding landslides, lateral spreading, subsidence, liquefaction, or collapse. Thus, potential impacts related to landslide, lateral spreading, subsidence, liquefaction, or collapse would be less than significant.

Mitigation Measures

Implementation of **MM 4.7-1** and **MM 4.7-2** would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.7-5: The project would be located on expansive soil, as defined in Table 18-1-B of the UBC (1994), creating substantial risks to life or property.

Expansive soils are fine-grained soils (generally high plasticity clays) that can undergo a significant increase in volume with an increase in water content and a significant decrease in volume with a decrease in water content. Changes in the water content of a highly expansive soil can result in severe distress to structures constructed on or against the soil. Project implementation within an area of expansive soils can lead to a shrink/swell behavior of the soils that could cause potential adverse effects over time, if not addressed appropriately prior to construction.

Based on the geotechnical investigation report prepared for the project, loose sand was encountered near the surface. The sandy soil found on-site is expected to have a low potential for swelling, and therefore, the project is not expected to create potentially significant impacts related to expansive soils. While the on-site soils have a low potential for expansion, **MM 4.7-1** would be implemented and requires a site-specific final geotechnical study to evaluate soil conditions and geologic hazards associated with the project. The final geotechnical study would include an evaluation for expansive soils and provide recommendations consistent with CBC requirements to reduce any potential adverse effects from expansive soils. Therefore, grading and construction on-site would adhere to the specifications, procedures, and site conditions contained in the final design plans, which would be fully compliant with the recommendations provided by the California registered and licensed geotechnical engineer in accordance with California and Kern County Building Code requirements as required by **MM 4.7-2**. The required measures would encompass site preparation, such as treatment of expansive soils or replacement with engineered fill. The final designs would be subject to approval and follow-up inspection by the Kern County Building Inspection Department. Final design requirements would be provided to the on-site construction supervisor and the Kern County Building Inspector to ensure compliance. Additionally, a Decommissioning Plan would be prepared and implemented at the end of the project's operational life. The Decommissioning Plan would specify all requirements necessary for compliance with applicable local, state, and federal regulations. Therefore, with the implementation of the Decommissioning Plan and **MM 4.7-1** and **MM 4.7-2**, potential impacts would be less than significant.

SCE Whirlwind Substation Upgrades

As stated above, the project site, including the SCE Whirlwind Substation and tie-line corridors, is not located in an area prone to swelling or expansion. While soils have a low potential for expansion, SCE would follow all applicable State and federal laws and regulations, including the California and Kern County Building Code, as well as any BMPs to reduce potential adverse effects from expansive soils, if required. Impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.7-1** and **MM 4.7-2** would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.7-6: The project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.

As described in **Chapter 3**, *Project Description*, the project includes the development of a septic system and leach line for each operation and maintenance building. The project's septic system would be constructed to comply with applicable requirements of the Kern County Public Health Services Department, Environmental Health Services Division "Standards for Land Developments" (**MM 4.7-3**). These standards include the aspects of sewage and preservation of environmental health. The standards are intended to safeguard public health and are enforced by the County's Environmental Health Services Division. A soil report regarding the feasibility of using individual sewage disposal systems in accordance with the standards of good public health and engineering practice is required. The report must be prepared by a registered civil engineer, qualified in the field of soils engineering, or by another acceptable specialist, and is subject to the review and approval of the Division.

The proposed septic system is anticipated to be located away from surface drainage and protected from potential surface runoff. Proper siting and design would minimize the potential for a public health or environmental impact from flooding. The project operator would obtain all required permits and approvals from Kern County Environmental Health Services Division and would implement all required conditions regarding the design and siting of the septic system and leach field. When designed correctly, septic systems would not result in public health impacts, adversely affect natural habitat, or pollute groundwater. Therefore, impacts related to soil capabilities of adequately supporting a septic system are less than significant. However, the implementation of **MM 4.7-3** would further ensure the project complies with the Kern County "Standards for Land Developments" and would avoid potential impacts related to soil capabilities of adequately supporting a septic system. Furthermore, a Decommissioning Plan would be prepared and implemented at the end of the project's operational life. The Decommissioning Plan would specify all requirements necessary for compliance with applicable local, state, and federal regulations.

In the unforeseen event that a leach field is found infeasible or impractical, sanitary waste would be held in tanks and removed from the project site periodically by a licensed contractor. If this were to occur, no impact would occur because no septic systems or alternative wastewater disposal systems would be developed.

SCE Whirlwind Substation Upgrades

Upgrades to the SCE Whirlwind Substation would not include the use of septic tanks or alternative wastewater disposal systems. Therefore, no impact would occur.

Mitigation Measures

Implementation of **MM 4.7-3** would be required.

MM 4.7-3: Prior to the issuance of grading or building permits for the operation and maintenance facility, the project operator shall obtain all required permits and approvals from Kern County Environmental Health Services Division and shall implement all required conditions regarding the design and siting of the septic system.

Level of Significance

Impacts would be less than significant.

Impact 4.7-7: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, as defined in CEQA Guidelines Section 15064.

Direct impacts on 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.

A significant impact on paleontological resources would occur if a project "directly or indirectly destroy[s] a significant paleontological resource or unique geologic feature" (CEQA Guidelines Section 15064). 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 on 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 the project adversely affects sensitive geologic units that underlie the non-sensitive unit.

No paleontological resources or unique geological features were identified on the project site based on the paleontological survey, records search, and desktop review. No fossils have been reported on the project site during the past three years of site field studies, and older alluvial fan deposits (map unit Qof) are more than a quarter-mile north of the project site.

Based on sediment characteristics, age, location, and results of the records search, younger alluvial fan deposits (Qyf) and older sediments should initially be considered to have a Moderate Potential for the occurrence of significant fossil resources based on SVP criteria. Sediments in the upper portion of this map unit are expected to be Holocene, transitioning to late Pleistocene with increasing depth within the unit. Therefore, there is the possibility of encountering significant fossil resources in this map unit or underlying older units.

Surface sediments mapped as modern alluvial deposits (Qf) and wash deposits (Qw) have a low potential for significant paleontological resources. Due to the recency of the time record in these geologically young sediments, it is not reasonably foreseeable that these modern sediments could contain significant fossils. However, the majority of the 23 geotechnical investigation samples indicate that the near-surface material

transitions from loose to medium density at a depth of approximately 5 feet, with no other notable change in lithology. This could be a result of consolidation and/or overburden effects occurring over time. Therefore, excavations deeper than 5 feet within sediments in the Qf and Qyf map units should be considered potentially Pleistocene or older and have moderate potential for significant fossil resources occurring and increasing sensitivity with depth.

Similarly, sediments below Qw may be Pleistocene due to the processes of scouring that expose older sediments, followed by their reburial. Therefore, excavations deeper than 5 feet should be considered to have a moderate potential for significant fossil resources occurring.

If significant vertebrate fossils are encountered during project implementation, disturbance of such resources could result in a potentially significant impact on paleontological resources. However, with the implementation of **MM 4.7-4** through **MM 4.7-7**, which would require Paleontological Resources Awareness Training for construction workers, use of a qualified paleontological monitor during construction activities, and appropriate treatment of inadvertently uncovered paleontological resources, potential impacts to paleontological resources would be reduced to less than significant. Decommissioning activities would occur within areas previously disturbed during construction; consequently, associated mitigation measures would have been applied; thus, potential impacts to paleontological resources are not expected.

SCE Whirlwind Substation Upgrades

Similar to other areas of the project site, no paleontological resources or unique geological features are known to exist within the SCE Whirlwind Substation site or tie-line corridors. However, interconnection of the tie-lines would entail the installation of transmission poles or towers, which could encounter sediments with a high potential of encountering paleontological resources. SCE would implement BMPs during construction activities, including standard measures for paleontological resources sensitivity training for construction workers, identifying protocols for inadvertent discovery of a paleontological resource, and establishing monitoring protocols. As such, impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.7-4** through **MM 4.7-7** would be required.

MM 4.7-4: The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (SVP 2025), to carry out all mitigation measures related to paleontological resources.

a) Prior to the start of any ground-disturbing activities, the qualified paleontologist shall prepare a Paleontological Resources Awareness Training program for all construction personnel working on the project. A Paleontological Resources Awareness Training Guide approved by a Qualified Paleontologist shall be provided to all personnel. A copy of the Paleontological Resources Awareness Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form.

b) Paleontological Resources Awareness Training may be conducted in conjunction with other awareness training requirements.

c) The training shall include an overview of potential paleontological resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified paleontologist for

further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of paleontological resources.

d) The project operator shall ensure all new employees who have not participated in earlier Paleontological Resources Sensitivity Training shall meet the provisions specified above.

e) The Paleontological Resources Awareness Training Guides shall be kept on-site and available for all personnel to review and be familiar with as necessary.

MM 4.7-5: Prior to construction, the Qualified Paleontologist shall review excavation plans to determine where paleontologically sensitive stratigraphic units will potentially be disturbed by ground-disturbing activities.

MM 4.7-6: During construction, the Qualified Paleontologist or designated monitor shall monitor all ground-disturbing activities (except vibratory or hydraulic installation of tracking or mounting structures and foundations or supports) that occur at a depth of 15 feet or deeper below ground surface.

Following completion of monitoring, the Qualified Paleontologist shall prepare a report documenting the absence or discovery of fossil resources on site. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, recovery and curation efforts, and the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be submitted to the Kern County Planning and Natural Resources Department to be kept on file.

MM 4.7-7: If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 60 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

Impacts would be less than significant.

4.7.5 Cumulative Setting, Impacts, and Mitigation Measures

Impacts of a project would be considered cumulatively considerable if they have the potential to combine with other past, present, or reasonably foreseeable projects to become significant. Cumulative projects listed in **Table 3-4**, *Cumulative Projects List*, in **Chapter 3**, *Project Description*, would be subject to relatively similar seismic hazards as those of the project. However, geology and soil impacts are generally site-specific and would only result in considerable cumulative impacts if projects occurred in the same location. Therefore, the geographic scope for cumulative impacts related to geology and soils would be limited to the project site. However, the geographic scope for cumulative impacts on paleontological resources

includes the northern portion of the Antelope Valley surrounding the project area, where similar geologic formations may contain similar paleontological resources.

Development of the project, with implementation of the regulatory requirements and **MM 4.7-1** and **MM 4.7-2**, as described above, would result in less than significant impacts related to exposing persons or structures to geology, 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 site-specific. Similar to the project, other projects in the area would be required to adhere to the same California and Kern County Building Codes, which would reduce the risk to people and property to less-than-significant levels. While future seismic events cannot be predicted, adherence to all federal, state, and local programs, requirements, and policies pertaining to building safety and construction would limit the potential for injury or damage to a less-than-significant level. Therefore, the project, combined with past, present, and other foreseeable developments in the area, would not result in a cumulatively significant impact by exposing people or structures to risks related to geologic hazards, soils, and/or seismic conditions. Therefore, the project would have a less-than-significant cumulative impact related to geology and soils.

Surficial deposits, namely erosion and sediment deposition, can be cumulative in nature, depending on the type and amount of development proposed in a given geographical area. The cumulative setting for soil erosion consists of existing, planned, proposed, and reasonably foreseeable land use conditions in the region. However, construction constraints are primarily based on specific sites within a proposed development and on the soil characteristics and topography of each site. Individual projects are required to comply with applicable codes, standards, and permitting requirements (e.g., preparation of a SWPPP) to mitigate potential erosion impacts. The project's compliance with these codes, standards, and permitting requirements is required by **MM 4.7-1**, **MM 4.7-2**, and **MM 4.10-1** (see **Section 4.10,** *Hydrology and Water Quality*). Other projects would be required to adhere to similar requirements, thereby minimizing cumulative erosion impacts. Other projects in the vicinity of the project are subject to environmental review, must conform to the KCGP and Building Code, and would implement any additional mitigation for seismic hazards to ensure soil stability, especially related to seismically induced erosion. The project would not contribute to any cumulative impacts related to geologic seismic hazards or related events. Cumulative impacts related to substantial soil erosion or loss of topsoil are less than significant.

Septic systems and related infrastructure associated with projects included in the analysis of cumulative impacts must comply with applicable codes, standards, and permitting requirements that the Kern County Environmental Health Services Division enforces. Regarding the project's potential to be located on soils incapable of adequately supporting the use of septic tanks, **MM 4.7-3** would require the project operator to obtain all required permits and approvals from the Kern County Environmental Health Services Division and comply with all required conditions regarding the design and siting of the septic system and leach fields. Therefore, the project would not result in a considerable contribution to significant cumulative impacts involving the use of septic systems and related infrastructure.

The potential for liquefaction and other geologic hazards related to liquefaction, including lateral spreading, is considered low, as historic groundwater levels in the area of the project site have been recorded at a depth greater than 40 feet bgs and the ground in the project area is relatively flat so it is laterally supported from all directions. Soils in the project area are not expansive and there is currently no known evidence of subsidence at the project site, so there is no potential for related cumulative impacts. Soils within the upper 5 feet found in the project site may have low to moderate collapse potential. Despite this, these conditions are expected to have a minor impact on design and can generally be addressed through standard engineering

measures such as remedial grading, which involves removing and replacing potentially collapsible soils beneath shallow concrete foundations. The project would also be subject to **MM 4.7-1**, which requires a California-licensed geotechnical engineer or engineering geologist to prepare a site-specific geotechnical study that evaluates soil conditions and geologic hazards. Other projects included in the analysis of cumulative impact would be subject to similar measures to address any potential for geologic hazards. With the implementation of **MM 4.7-1**, the project would not make a cumulatively considerable contribution to a significant cumulative impact related to geologic hazards.

The geographic scope for cumulative effects to paleontological resources includes the northern portion of the Antelope Valley surrounding the project. Cumulative impacts to paleontological resources could occur if other related projects, in conjunction with the project, had or would have impacts on paleontological resources that, when considered together, would be significant. Development of the project, in combination with other projects in the area, has the potential to contribute to a cumulatively significant impact on paleontological resources due to the potential loss of unique paleontological resources in the region. However, mitigation measures are included in this Draft EIR to reduce potentially significant project impacts to paleontological resources during construction of the project. Implementation of **MM 4.7-4** requires paleontology sensitivity training for construction workers, **MM 4.7-5** requires review of excavation plans to determine where paleontologically sensitive stratigraphic units would be potentially disturbed by ground-disturbing activities, and **MM 4.7-6** requires appropriate monitoring of construction activities for potential paleontological resources that may be encountered. Although project construction has the potential to disturb paleontological resources, implementation of **MM 4.7-**7 would ensure the appropriate protocol is followed when identifying and handling discovered paleontological resources. With the implementation of **MM 4.7-4** through **MM 4.7-7**, the project would not considerably contribute to a significant cumulative impact on paleontological resources.

SCE Whirlwind Substation Upgrades

As described above in Impact 4.7-1, the project includes SCE Whirlwind Substation upgrades, such as a new 220kV switchrack, transformers, support structures, and circuit breakers, and the installation of two tie-lines. Construction of the SCE infrastructure would require limited ground disturbance and 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, strong seismic ground shaking, ground failure and liquefaction, or landslides. The SCE improvements would not result in substantial soil erosion or be located on unstable geological units or expansive soils, and no septic systems would be required. As described above, the preparation and development of the SCE Whirlwind Substation site pursuant to a design-level geotechnical engineering report that complies with applicable building code, and state standards would avoid the creation of significant geological hazards. Similarly, other projects in the area would be required to adhere to applicable California and Kern County Building Codes, which would reduce the risk to people and property to less-than-significant levels. While future seismic events cannot be predicted, adherence to all federal, state, and local programs, requirements, and policies pertaining to building safety and construction would limit the potential for injury or damage to a less than significant level.

It is unlikely that subsurface high-potential geologic units for paleontological resources would be encountered. However, the installation of the tie-lines would entail auguring to install poles. Similarly, cumulative projects that excavate or disturb deeper sediments may also encounter paleontological resources. Cumulative projects that encounter unique paleontological resources are expected to be subject to mitigation similar to the project addressing unanticipated discoveries. Further, SCE would implement BMPs during construction activities, including standard measures for paleontological resources sensitivity

training for construction workers, identifying protocols for inadvertent discovery of a paleontological resource; and establishing monitoring protocols. Accordingly, cumulative impacts would be less than significant, and the incremental contribution of the SCE upgrades would not be cumulatively considerable.

Mitigation Measures

Implementation of **MM 4.7-1** through **MM 4.7-7** and **MM 4.10-1** (see **Section 4.10**, *Hydrology and Water Quality)* would be required.

Level of Significance after Mitigation

Cumulative impacts would be less than significant.

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Section 4.8

Greenhouse Gas Emissions

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Section 4.8
Greenhouse Gas Emissions

4.8.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the affected environment and regulatory setting relating to greenhouse gases (GHGs) for the project. This section also describes potential impacts associated with GHGs that would result from project construction, operation, and decommissioning, and, as necessary, mitigation measures that would reduce these potential impacts. Information in this section is based primarily on the *Supplemental Air Quality and Greenhouse Gas Emissions Modeling Technical Memorandum for the Euismod Energy Storage Project* (**Appendix B3**) and the GHG section of the *Euismod Project Air Quality and Greenhouse Gas Emissions Report* (**Appendix B1**). 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 include any atmospheric gases that absorb and re-emit infrared radiation in the atmosphere. When sunlight strikes the Earth's surface, some of it is reflected back toward space as infrared radiation (heat). 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, GHGs trap heat in the atmosphere, keeping the Earth's surface warmer than it otherwise would be. Some GHGs occur in nature (water vapor, carbon dioxide, methane, and nitrous oxide) while others are exclusively human-made (e.g., gases used for aerosols). The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs) and are described below.

- **Carbon dioxide:** CO_2 enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the manufacture of cement). CO_2 is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.
- **Methane:** CH_4 is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and agricultural practices and the decay of organic waste in municipal solid waste landfills.

- **Nitrous oxide:** N_2O is emitted during agricultural and industrial activities and during combustion of fossil fuels and solid waste.
- **Fluorinated gases:** HFCs, PFCs, and SF_6 are synthetic, powerful climate-change gases emitted from a variety of industrial processes. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in minute quantities, but because they are potent climate-change gases, they are sometimes referred to as high Global Warming Potential (GWP) gases.
- **Sulfur hexafluoride:** SF_6 is a colorless, odorless, nontoxic, nonflammable gas. SF_6 is most commonly used as an electrical insulator in high-voltage equipment that transmits and distributes electricity, including equipment such as electrical circuit breakers, which may be used for the project. The California Climate Action Registry (Registry) lists SF_6 as a potential source of fugitive emissions from electrical transmission and distribution equipment. Fugitive emissions are unintentional leaks of GHGs from equipment such as joints, seals, and gaskets.

The Intergovernmental Panel on Climate Change (IPCC) developed the concept of GWP to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of CO_2 equivalent ($MTCO_2e$).

GWPs are periodically updated by the IPCC in their Assessment Reports (AR). Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's Second Assessment Report. In 2007, the IPCC updated the GWP values based on the latest science at the time in its Fourth Assessment Report (AR4). The updated GWPs in the IPCC AR4 are used in recent GHG emissions inventories. In 2013, the IPCC again updated the GWP values based on the latest science in its Fifth Assessment Report (AR5). This was followed by the Sixth Assessment Report (AR6), which was finalized in March 2023.

The current version of CalEEMod (version 2022), an air emissions modeling program that was used in the evaluation of GHG-related impacts described in this Draft EIR, assumes that the GWP for CH_4 is 25 and the GWP for N_2O is 298, based on the IPCC AR4 (IPCC 2007). The GWP values identified in CalEEMod were applied to the project.

Greenhouse Gas Emissions Inventories

A GHG inventory is the quantification of all GHG emissions within a selected physical or sector boundary. GHG inventories can be identified on a large (e.g., for global and national entities) or small (e.g., for a particular building or person) scale. The following discussion is reproduced from Monroe (2013) and provides history on GHG inventories:

> *In the first part of the 20th century, it was suspected that the concentration of atmospheric CO_2 might be increasing in the atmosphere due to fossil fuel combustion. However, there were relatively few measurements of this gas and the measurements varied widely.*
>
> *In 1953, Charles (Dave) David Keeling began a postdoctoral position at Caltech, Pasadena, California under Professor Harrison Brown. His initial project was aimed at extracting uranium from granite rock with applications in the nuclear power industry. He never really started this project but with encouragement from Professor Brown became*

involved in another project investigating the equilibria between carbonate in surface waters, limestone, and atmospheric CO_2. This involved the construction of a precision gas manometer to measure CO_2 extracted from the air as well as acidified samples of water.

Dave Keeling found significant variations in CO_2 concentration in Pasadena, probably due to industry, and later took his sampling equipment to Big Sur near Monterey. There he began to take air samples throughout the day and night and soon detected an intriguing diurnal pattern. The air contained more CO_2 at night than during the day and, after correcting for the effects of water vapor, had about the same amount of CO_2 every afternoon, 310 parts per million (ppm). He used stable isotope ratio mass spectrometry measurements of the CO_2 he extracted to show that the 13C/12C ratio in CO_2 at night was smaller than during the day and a function of plant respiration.

He repeated these measurements in the rainforests of the Olympic peninsula and high mountain forests in Arizona. Everywhere the data were the same: strong diurnal behavior with steady values of about 310 ppm in the afternoon. The explanation for the results came from a book on meteorology describing diurnal patterns in turbulence in the atmosphere. In the afternoon, Dave Keeling was measuring CO_2 concentrations representative of the "free atmosphere," concentrations that prevailed over a large part of the Northern Hemisphere. At nighttime with a lower boundary layer, the CO_2 concentration was heavily influenced by respiration from local plants and soils.

Little did Dave Keeling know then that he had laid the basis for his notable career investigating the global behavior of atmospheric CO_2.

In 1956, Dave Keeling's measurements came to the attention of Harry Wexler at the U.S. Weather Bureau and Roger Revelle at Scripps Institution of Oceanography. To both these organizations, he proposed a global program based on infrared gas analyzers to measure the atmospheric CO_2 concentration at several remote locations around the world including the South Pole station and at Mauna Loa in Hawaii. The proposal was supported by and became one of the features of the International Geophysical Year (IGY) beginning in July 1957 and ending in December 1958.

Using IGY funds from the Weather Bureau, Dave Keeling bought four infrared gas analyzers from the Applied Physics Corporation. One of these was installed at Mauna Loa in March 1958 and, on the first day of operation, recorded an atmospheric CO_2 concentration of 313 ppm.

To Dave Keeling's surprise, however, the CO_2 concentration at Mauna Loa had risen by 1 ppm in April 1958 to a maximum in May when it began to decline reaching a minimum in October. After this, the concentration increased again and repeated the same seasonal pattern in 1959. In Dave Keeling's words, "We were witnessing for the first time nature's withdrawing CO_2 from the air for plant growth during summer and returning it each succeeding winter." In 1959, the average concentration had increased and increased still further in 1960 as shown in the graph.

Dave Keeling's analytical skills and dedication had paid off with two dramatic discoveries: First, the natural seasonal "breathing" of the planet, and second, the rise in atmospheric CO_2 due to the combustion of fossil fuels by industry and land use changes. Published in the 1960 Tellus Article, "The concentration and isotopic abundances of carbon dioxide in

the atmosphere" (Keeling 1960), these significant findings marked the beginning of the now world-famous "Keeling Curve" which extends for 55 years and represents one of the most important geophysical records ever made.

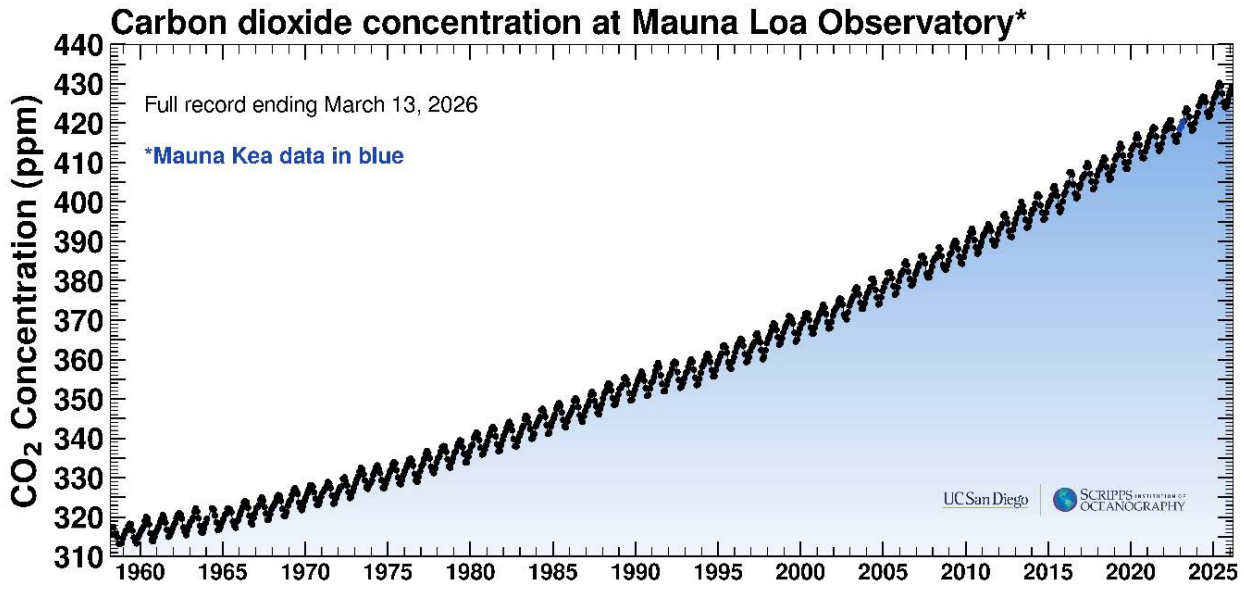
By the early 1970s, this curve was getting serious attention and played a key role in launching a research program into the effect of rising CO_2 on climate. Since then, the rise has been relentless and shows a remarkably constant relationship with fossil fuel burning and can be well accounted for based on the simple premise that 57 percent of fossil fuel emissions remain airborne.

The Mauna Loa record can now be placed in the context of the variations in CO_2 over the past 400,000 years, based on reconstructions from polar ice cores. During ice ages, the CO_2 levels were around 200 ppm, and during the warmer interglacial periods, the levels were around 280 ppm.

Looking ahead, if the rate of fossil fuel burning continues to rise on a business-as-usual trajectory, such that humanity exhausts the reserves over the next few centuries, CO_2 will continue to rise to levels on the order of 1,500 ppm. The atmosphere will not return to preindustrial levels even tens of thousands of years into the future. Based on this trend, it is clear that humanity is on the threshold of a new era of geologic history, one with a climate very different from that of humanity's ancestors. These curves not only demonstrate the implications of rising CO_2 levels but also illustrate the power of continuous time series to communicate and clarify the essential science.

This is illustrated in **Figure 4.8-1,** *Keeling Curve Diagram*, below.

Figure 4.8-1: Keeling Curve Diagram



Source: UCSD 2026

Sources and Emissions

On a global scale, GHG emissions are predominantly associated with activities related to energy production; changes in land use, such as deforestation and land clearing; industrial sources; agricultural activities; transportation; waste and wastewater generation; and commercial and residential land uses. Worldwide, energy production, including the burning of coal, natural gas, and oil for electricity and heat, is the largest single source of global GHG emissions.

The USEPA releases an annual GHG inventory that tracks U.S. GHG emissions and sinks by source, economic sector, and GHG going back to 1990. In 2022, U.S. GHG emissions totaled 6,343.2 million metric tons (MMT) of CO_2e, or 5,489.0 $MMTCO_2e$ after accounting for sequestration (also referred to as "storage"; these terms are used synonymously throughout the regulatory landscape) from the land sector. Overall, net emissions increased by 1.3 percent from 2021 to 2022 and decreased by 16.7 percent from 2005 levels. In 2022, CO_2 emissions from fossil fuel combustion were 4,699.4 $MMTCO_2e$, or 1.1 percent below emissions in 1990. The transportation sector accounted for 28.4 percent of 2022 GHG emissions, the electric power industry accounted for 24.9 percent, the industrial sector accounted for 22.9 percent, commercial and residential accounted for 13.5 percent, and agriculture accounted for 10 percent (USEPA 2024).

California

California produced approximately 360.4 $MMTCO_2e$ in 2023, which is 11.2 $MMTCO_2e$ (3.0 percent) lower than 2022 levels. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2023, accounting for approximately 37.1 percent of total GHG emissions in the state. This sector was followed by the industrial sector at approximately 18.6 percent and the electric power sector (including both in-state and out-of-state sources) at approximately 15.9 percent (CARB, 2025). California GHG emissions by economic sector from 2014 to 2023 are summarized in **Table 4.8-1**, *California Greenhouse Gas Emissions ($MMTCO_2e$)*.

TABLE 4.8-1: CALIFORNIA GREENHOUSE GAS EMISSIONS ($MMTCO_2e$) 2014 - 2023

Emission Inventory Category	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Transportation	157.2	160.9	164.6	165.9	164.6	161.8	135.5	145.3	140.1	133.7
Electric Power	90.3	86.2	70.8	64.4	65.0	60.2	59.5	62.3	59.7	57.2
Industrial	83.1	80.5	79.5	78.9	79.5	77.7	71.1	71.2	70.3	66.9
Commercial & Residential	37.7	39.4	40.2	40.6	40.2	43.5	42.0	41.8	41.8	43.3
Agriculture	34.0	32.9	32.6	31.9	32.4	31.7	31.5	30.7	30.1	29.2
High GWP	17.9	18.8	19.5	20.1	20.6	20.8	21.3	21.3	21.3	21.4
Recycling & Waste	8.2	8.1	7.9	8.1	8.2	8.2	8.4	8.3	8.1	8.6
Total Gross Emissions	428.3	426.9	415.0	409.9	410.4	403.9	369.4	380.8	371.6	360.4

Key: $MMTCO_2e$ = million metric tons of Carbon Dioxide equivalent
Source: CARB 2025.

Climate Change

GHGs are gases in the atmosphere that trap heat. Increases in atmospheric GHG concentrations are causing changes in the global climate, 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, there is strong consensus in the world-wide scientific community that there is a direct link between increased emissions of GHGs and long-term global temperature increases (i.e., global warming).

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 in the state, but are expected to include the following direct effects (IPCC 2022):

- 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 the heat index over land areas; and
- More intense precipitation events.

The California Natural Resources Agency has released four California Climate Change Assessments (2006, 2009, 2012, and 2018) over the past decade, which have addressed the following: acceleration of warming across the state, more intense and frequent heat waves, greater riverine flows, accelerating sea-level rise, more intense and frequent drought, more severe and frequent wildfires, more severe storms and extreme weather events, shrinking snowpack and less overall precipitation, and ocean acidification, hypoxia, and warming. To address local and regional governments' need for information to support action in their communities, the most recent Fourth Assessment (CNRA 2018) includes reports for nine regions of the state, including the Sierra Nevada Region, where the project is located. Key projected climate change vulnerabilities for the Sierra Nevada Region include the following (CNRA 2018):

- Changes in heat and precipitation extremes, with long-term warming trends, declining snowpacks, and changes in streamflow timing.
- Temperature increases and greater precipitation variations (especially increased droughts) are likely to stress and, in many cases, perturb terrestrial and aquatic communities.
- Predicted trends of temperature and precipitation will directly influence the regional water cycle, including uncertain but potentially large changes in natural and societal water demands.
- Combined effects of drought, decline in forest health, and wildfire—all of which climate change will exacerbate—threaten the life and property of communities, especially in the wildland-urban interface throughout the region.

Additional warming will increase the magnitude of these changes. IPCC near-term projections predict that every region in the world will face further increases in climate hazards, increasing multiple risks to ecosystems and humans. Hazards and associated risks expected in the near term include an increase in heat-related human mortality and morbidity; food-borne, waterborne, and vector-borne diseases; mental health challenges; flooding in coastal and other low-lying cities and regions; biodiversity loss in land, freshwater, and ocean ecosystems; and a decrease in food production in some regions (IPCC 2023).

4.8.3 Regulatory Setting

Federal

U.S. Environmental Protection Agency

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 USEPA is responsible for implementing federal policy to address GHGs. 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 the following:

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, CH_4 and other non-CO_2 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 (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6). 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.

On July 29, 2025, USEPA proposed to rescind the 2009 Greenhouse Gas Endangerment Finding and all resulting GHG emission standards for new motor vehicles and engines, including the light-duty, medium-duty, and heavy-duty vehicle and engine standards for model years (MY) 2012 to 2027 and beyond. On February 12, 2026, USEPA finalized its rescission of the 2009 Greenhouse Gas Endangerment Finding. The USEPA now lacks statutory authority under Section 202(a) of the Clean Air act to prescribe standards for GHG emissions (USEPA 2026).

Regulations for Greenhouse Gas Emissions from Vehicles

Regulations for Greenhouse Gas Emissions from Passenger Cars and Trucks

In April 2010, the USEPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) established a national program consisting of new standards for MY 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. The USEPA finalized the first-ever national GHG emissions standards under the CAA, and NHTSA finalized the Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. The new standards were applicable to new passenger cars, light-duty trucks, and medium duty passenger vehicles, covering MY 2012 through 2016. They required these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile in MY 2016 under USEPA's GHG program, and 34.1 miles per gallon in MY 2016 under NHTSA's CAFE program and represented a harmonized and consistent national program.

In August 2012, the USEPA and NHTSA issued final rules extending the national program to improve fuel economy for MY 2017 through 2025. These standards required vehicles to meet an estimated combined average emissions level of 163 grams of CO_2 per mile in MY 2025 under USEPA's GHG program, and 49.6 miles per gallon in MY 2025 under NHTSA's CAFE program (USEPA and NHTSA 2012). In August 2018, the ''Safer Affordable Fuel-Efficient" (SAFE) Vehicles Rule was proposed for MY 2021–2026 Passenger Cars and Light Trucks. This rule went into effect on June 29, 2020, thereby setting new CO_2 standards for MY 2021 and later, and fuel economy standards for MY 2021 and setting new fuel economy standards for MY 2022–2026 [NHTSA–2018–0067; EPA–HQ–OAR–2018–0283; FRL 10000–45–OAR].

In December 2021, following Executive Order 13990 (Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis), the USEPA further revised the GHG emissions standards under the CAA section 202(a) for light-duty vehicles for 2023 and later MY to make the standards more stringent than SAFE rule standards in each MY from 2023 through 2026 [EPA–HQ–OAR–2021–0208; FRL 8469–01–OAR].

On April 18, 2024, the USEPA published a final rule, Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles, that set new, more protective standards to further reduce harmful air pollutant emissions from light-duty and medium-duty vehicles starting with MY 2027 [EPA–HQ–OAR–2022–0829; FRL–8953–04–OAR].

On February 12, 2026, USEPA finalized its rescission of the 2009 Greenhouse Gas Endangerment Finding, which served as a prerequisite for regulating emissions from new motor vehicles and new motor vehicle engines. Absent this finding, EPA lacks statutory authority under Section 202(a) of the Clean Air Act to prescribe standards for GHG emissions. Therefore, USEPA also finalized the repeal of all subsequent GHG emission standards from its regulations for light-, medium-, and heavy-duty on-highway vehicles and engines (USEPA 2026).

As a result of these changes, engine and vehicle manufacturers no longer have any future obligations for the measurement, control, and reporting of GHG emissions for any highway engine and vehicle, including model years manufactured prior to this final rule. This final action is only related to GHG emissions and does not affect regulations on any traditional air pollutants (USEPA 2026).

On December 5, 2025, NHTSA published a Notice of Proposed Rulemaking, The Safer Affordable Fuel-Efficient (SAFE) Vehicle Rule III for Model Years 2022 to 2031 Passenger Cars and Light Trucks, which would reset the maximum feasible fuel economy standards for these vehicles. NHTSA projects that the

amended standards would correspond to the industry fleetwide average for all light-duty vehicles of roughly 34.5 miles per gallon (mpg) in MY 2031 (90 Federal Register 56144).

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 MY 2014–2018 (76 *Federal Register* 57106–57513). The standards for CO_2 emissions and fuel consumption were tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. 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 applies to vehicles with MY 2018 through 2027 for certain trailers, and MY 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types of sizes of buses and work trucks [EPA–HQ–OAR–2014–0827; NHTSA–2014–0132; FRL–9950–25–OAR].

As described above, USEPA finalized its rescission of the 2009 Greenhouse Gas Endangerment Finding in February 2026 and now lacks the authority to prescribe standards for GHG emissions. Therefore, USEPA also finalized the repeal of all subsequent GHG emission standards from its regulations for medium-, and heavy-duty on-highway vehicles and engines (USEPA 2026).

40 CFR Part 98. Mandatory Reporting of Greenhouse Gases Rule

This rule requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 $MTCO_2e$ emissions per year (USEPA 2011). Additionally, reporting of emissions is required for owners of SF_6- 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 Draft EIR.

On September 12, 2025, USEPA proposed to permanently remove GHG mandatory reporting program obligations for 46 source categories and suspend program reporting requirements until reporting year 2034 for petroleum and natural gas source categories (90 *Federal Register* 44591). Additionally, on February 27, 2026, USEPA extended the deadline for Reporting Year 2025 reporting to October 20, 2026 (91 *Federal Register* 9712).

40 CFR Part 52. Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule

USEPA mandated the application of Prevention of Significant Deterioration requirements to facilities whose stationary source CO_2e emissions exceed 75,000 tons per year (USEPA 2010). The project would not be expected to trigger Prevention of Significant Deterioration permitting as required by this regulation; however, GHG emissions of the project are quantified in this Draft 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 Code of Federal Regulations (CFR) Parts 1039, 1065, and 1068, include multiple tiers of emission standards. Most recently, the USEPA adopted a comprehensive national program to reduce emissions from non-road diesel engines by integrating engine and fuel controls as a system to gain the greatest reductions. To meet these Tier 4 emission standards, engine manufacturers will produce new engines with advanced control technologies (69 *Federal Register* 38958).

Corporate Average Fuel Economy Standards

Established by the U.S. Congress in 1975, CAFE standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The NHTSA and USEPA jointly administer the CAFE standards. 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 (NHTSA 2020). 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).

On April 1, 2022, the NHTSA announced new fuel economy standards that require an industry-wide fleet average of approximately 49 miles per gallon for passenger cars and light trucks in model year 2026. The new standards will increase fuel efficiency 8 percent annually for model years 2024-2025 and 10 percent annually for model year 2026. They will also increase the estimated fleetwide average by nearly 10 miles per gallon for model year 2026, relative to model year 2021 (NHTSA 2022).

On December 5, 2025, NHTSA published a Notice of Proposed Rulemaking, The Safer Affordable Fuel-Efficient (SAFE) Vehicle Rule III for Model Years 2022 to 2031 Passenger Cars and Light Trucks, which would reset the maximum feasible fuel economy standards for these vehicles. NHTSA projects that the amended standards would correspond to the industry fleetwide average for all light-duty vehicles of roughly 34.5 miles per gallon (mpg) in MY 2031 (90 *Federal Register* 56144).

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 MMT 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 (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 32 Scoping Plan).

Executive Order B-55-18

Executive Order B-55-18 (September 2018) establishes a statewide policy for California to achieve carbon neutrality as soon as possible, and no later than 2045, and to achieve and maintain net-negative emissions thereafter. The goal is an addition to the existing statewide targets of reducing the state's GHG emissions. CARB will work with relevant state agencies to ensure that future scoping plans identify and recommend measures to achieve the carbon neutrality goal.

Assembly Bill 1279

The California Climate Crisis Act (Assembly Bill 1279, September 2022) establishes the policy of the state to: achieve carbon neutrality as soon as possible, but no later than 2045; maintain net-negative GHG emissions thereafter; and ensure that by 2045 statewide anthropogenic GHG emissions are reduced at least 85 percent below 1990 levels.

Assembly Bill 32 and Senate Bill 32

In 2006, Assembly Bill 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 CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 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 32 and its companion bill, Assembly Bill 197, amended HSC Division 25.5 and established a GHG reduction target of 40 percent below 1990 levels by 2030, and included provisions to ensure the benefits of State climate policies reach into disadvantaged communities.

Senate Bill 605 and Senate Bill 1383

Short-lived climate pollutants (SLCP) (that is, black carbon, fluorinated gases, and CH_4) remain in the atmosphere for a much shorter period of time than longer-lived climate pollutants yet have disproportionately more climate change effects. Their relative potency, when measured in terms of how they heat the atmosphere, can be tens, hundreds, or even thousands of times greater than that of CO_2. The impacts of SLCP are especially strong over the short term. Reducing these emissions can make an immediate beneficial impact on climate change.

SLCP emissions reductions support achieving AB 32 and SB 32 GHG emission-reduction targets. SB 605 directed CARB, in coordination with other state agencies and local air districts, to develop a comprehensive SLCP reduction strategy, and SB 1383 directed CARB to approve and begin implementing this strategy. This legislation also set statewide emissions reduction targets specifying a 40 percent reduction in CH_4, a

40 percent reduction in HFCs, and a 50 percent reduction in anthropogenic black carbon below 2013 levels by 2030. The bill also established specific targets for reducing organic waste in landfills and provided specific direction for CH_4 emissions reductions from dairy and livestock operations.

The SLCP Reduction Strategy, approved by the Board in March 2017, lays out a range of options to reduce SLCP emissions in California, including regulations, incentives, and other market-supporting activities. The SLCP Strategy also informed the CARB 2022 Scoping Plan.

Climate Change Scoping Plan

Assembly Bill 32 required preparing a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emissions reduction by 2020 (HSC Section 38561 (h)). 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 emissions limit and initiate the transformations needed to achieve the State's long-range climate objectives (CARB 2008). In 2014, the First Update to the Scoping Plan upon the initial Climate Change Scoping Plan with new strategies and recommendations. CARB revised the projected statewide 2020 emissions estimate of 509.4 $MMTCO_2e$ using the GWP values from the IPCC AR4 509.4 $MMTCO_2e$ (CARB 2014). Therefore, the emission reductions necessary to achieve the 2020 emissions target of 431 $MMTCO_2e$ would be 78.4 $MMTCO_2e$, or a reduction of GHG emissions by approximately 15.4 percent. In 2017, the 2017 Scoping Plan established a 2030 GHG reduction target of 40 percent emissions reductions below 1990 levels (CARB 2017). On November 16, 2022, CARB released the 2022 Updated Scoping Plan laying out the policies and actions California proposes to take to drastically reduce its dependence on fossil fuels and get to carbon neutrality by 2045 or earlier (CARB 2022).

Senate Bill 97

Senate Bill 97 was enacted requiring the Office of Land Use and Climate Innovation (LCI), previously the Office of Planning and Research, to develop guidelines for the mitigation of GHG emissions, or the effects related to releases of GHG emissions. LCI submitted proposed amendments to the Natural Resources Agency in accordance with Senate Bill 97 regarding analysis and mitigation of GHG emissions. As directed by Senate Bill 97, the Natural Resources Agency adopted Amendments to the CEQA Guidelines for GHG emissions, which became effective in 2010.

Senate Bill 375

The Sustainable Communities and Climate Protection Act (Senate Bill 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. Senate Bill 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 (Kern COG), 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 (CARB 2018).

Assembly Bill 1493

In response to the transportation sector accounting for more than half of California's CO_2 emissions, Assembly Bill 1493 was enacted in July 2002. It required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in 2004. When fully phased in, the near-term (2009-2012) standards will result in a reduction of about 22 percent in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term standards will result in a reduction of about 30 percent.

Senate Bill 1206

Senate Bill 1206 (September 2022) aims to transition the state away from HFCs and to ultra-low GWP or no-GWP alternatives no later than 2035 by maximizing recovery and reclamation and increasing adoption of new low and ultra-low GWP alternative refrigerants. SB 1206 prohibits the sale or distribution of new bulk HFCs, and HFC blends with high GWPs in accordance with the following schedule:

- Greater than 2,200 GWP starting 1/1/2025
- Greater than 1,500 GWP starting 1/1/2030
- Greater than 750 GWP starting 1/1/2033

Sale of reclaimed HFC is allowed, promoting better recovery of HFC from existing equipment.

Building Energy Efficiency Standards

The Building Energy Efficiency Standards (Energy Code) were first adopted in 1976 by the California Energy Commission (CEC) and serve to reduce wasteful, uneconomical, and unnecessary uses of energy for the state. They include requirements in the Energy Code (Title 24, Part 6) and voluntary energy efficiency provisions in the Green Building Standards Code (CALGreen) (Title 24, Part 11).

The Energy Code contains energy efficiency, water efficiency, and indoor air quality requirements for newly constructed buildings, additions to existing buildings, and alterations to existing buildings. It includes both a prescriptive option, allowing builders to comply by using methods known to be efficient, and a performance option, allowing builders complete freedom in their designs provided the building achieves the same overall efficiency as an equivalent building using the prescriptive option.

In 2008, the California Building Standards Commission adopted the nation's first green building standards. CALGreen establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of Energy Code requirements), water conservation, material conservation, and interior air quality.

The Energy Code and CALGreen are updated every three years. The most recent versions, the 2025 Energy Code and 2025 CALGreen, became effective January 1, 2026. Buildings whose permit applications are submitted before January 1, 2026, but after January 1, 2023, must comply with the 2022 Energy Code and 2022 CALGreen.

California Renewables Portfolio Standard

California's Renewables Portfolio Standard (RPS) program was enacted in 2002 with Senate Bill 1078 and accelerated in 2006, requiring investor-owned utilities to obtain 20 percent of their electric supply from renewable energy sources, such as solar, by 2010. On April 12, 2011, Governor Brown signed Senate Bill

2X, requiring California retail electric providers to procure 33 percent of their retail energy sales from eligible renewable sources by 2020. In October 2015, Governor Brown signed into law Senate Bill 350, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030 (CPUC 2023).

Senate Bill 1020 (2022)

On September 16, 2022, Governor Newsom signed Senate Bill 1020, the Clean Energy, Jobs, and Affordability Act, which adds interim targets to the policy framework originally established in Senate Bill 100. The interim targets require renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent of all retail electricity sales by 2040. The bill also requires all state agencies to rely on 100 percent renewable energy and zero-carbon resources to power their own facilities by 2035 and encourages better information sharing and coordination between agencies for transmission planning.

Senate Bill 100

Senate Bill 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. It increased the standards set forth in Senate Bill 350, establishing that 44 percent of the total electricity sold to retail customers in California per year by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030, be secured from qualifying renewable energy sources. Senate Bill 100 states that it is the policy of the State that eligible renewable energy resources and zero-carbon resources supply 100 percent of the retail sales of electricity to California. This bill requires that the achievement of 100 percent zero-carbon electricity resources does not increase carbon emissions elsewhere in the western grid and that the achievement cannot be achieved through resource shuffling.

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for MY 2015 through 2025. The program combined the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package included elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2025). CARB adopted the Advanced Clean Cars II regulations in November 2022, imposing the next level of low-emission and zero-emission vehicle standards for MY 2026-2035 that contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality targets. By 2035, all new passenger cars, trucks, and SUVs sold in California will be required to be zero emissions (CARB 2025). On June 12, 2025, President Trump signed three Congressional Review Act resolutions that rescind California's electric vehicle sales mandates and diesel engine rules. House Joint Resolution 88 revokes the USEPA's Clean Air Act waiver to California that allowed adoption of the Advanced Clear Cars Program. California, joined by other states, filed a lawsuit in federal court challenging the three resolutions. In the interim, Governor Newsom signed Executive Order N-27.25 directing CARB to develop new zero-emissions regulations. The Trump administration has challenged California's attempts to develop new regulations, and the State of Texas has intervened in that challenge.

State Medium- and Heavy-Duty Vehicle Standards

In December 2013, CARB adopted an Airborne Toxic Control Measure to limit idling of diesel-fueled commercial vehicles. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR 2485).

CARB adopted the final Heavy-Duty Truck and Bus Regulation (13 CCR 2025) in December 2014 to reduce particulate matter and nitrogen oxide emissions from heavy-duty diesel vehicles. The rule requires particulate matter filters be applied to newer heavy-duty trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. Nearly all diesel trucks and buses are required to be compliant with the 2010 model year engine requirement by January 1, 2023.

The Advanced Clean Trucks Regulation was adopted in June 2020 to accelerate the market for zero-emission vehicles (ZEVs) in the medium- and heavy-duty truck sector and to reduce emissions of nitrogen oxides, fine particulate matter, toxic air contaminants, GHGs, and other criteria pollutants generated from on-road mobile sources (CARB 2021). Requiring medium- and heavy-duty vehicles to transition to zero-emissions technology will help California meet established near- and long-term air quality and climate mitigation targets.

Executive Order N-79-20 (September 2020) directives specific to medium- and heavy-duty vehicles include: development of regulations requiring increasing volumes of new zero-emission trucks and buses sold and operated in the state toward the target of 100 percent of the fleet transitioning to ZEVs by 2045 everywhere feasible, and for all drayage trucks to be zero emission by 2035; coordination with other state agencies, the EPA, and local air districts, to develop strategies to achieve 100 percent zero emissions from off-road vehicles and equipment operations in the state by 2035; and preparation of a Zero-Emission Vehicle Market Development Strategy to ensure coordination and implementation of the Executive Order and outline actions to support new and used ZEV markets. The initial strategy document was released in February 2021 and must be updated every three years. In addition, the Executive Order specifies identification of near-term actions and investment strategies to improve clean transportation, sustainable freight, and transit options.

California Air Pollution Control Officers Association White Paper

The California Air Pollution Control Officers Association issued a "white paper" (*CEQA and Climate Change*—an authoritative report issued by any organization) on evaluating GHG emissions under CEQA (CAPCOA 2008). The strategies provided in that document are guidelines only and have not been adopted by any regulatory agency. The white paper serves as a resource to assist lead agencies in evaluating GHGs during review of environmental information documents.

Regional

Regional Transportation Plan/Sustainable Communities Strategy

The 2022 Kern Council of Governments (COG) *Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS)* was adopted on July 21, 2022, and serves as the blueprint for the region's multimodal transportation system, including freight, intermodal, and aviation facilities. The RTP/SCS is updated every four years and includes the SCS required by SB 375, which promotes the integration of transportation planning, land use planning, and regional housing needs allocations. The SCS is intended to specifically address emission reductions from passenger vehicle travel and includes regional per-capita

emission reduction targets of 9 percent by 2020 and 15 percent by 2035, compared to the baseline year 2005.

Kern COG is currently updating its RTP/SCS to establish a long-term transportation and land use strategy through the year 2049. Draft planning and environmental review documents for the 2026 RTP/SCS have been released for public review in May 2026. The adoption of the updated RTP/SCS is anticipated in August 2026.

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to GHG emissions. The goals, policies, and implementation measures in the Kern County General Plan (KCGP) and the Willow Springs Specific Plan related to GHG emissions that are applicable to the project are provided below.

Kern County General Plan

The Land Use, Conservation, and Open Space and Energy Elements of the KCGP provide goals, policies, and implementation measures applicable to air quality, which would also reduce GHG emissions (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

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:

(a) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and

(b) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.

Policy 21: The County shall support air districts' efforts to reduce PM_{10} and $PM_{2.5}$ emissions.

Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, State, and local standards.

Implementation Measures

Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.

Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:

a. Minimizing idling time.

b. Electrical overnight plug-ins.

Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:

a. Pave dirt roads within the development.

b. Pave outside storage areas.

c. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.

d. Use of alternative fuel fleet vehicles or hybrid vehicles.

e. Use of emission control devices on diesel equipment.

f. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces.

g. Provide bicycle lockers and shower facilities on site

h. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).

i. The use and development of park and ride facilities in outlying areas.

j. Other strategies that may be recommended by the local Air Pollution Control Districts.

Measure J: The County should include PM_{10} control measures as conditions of approval for subdivision maps, site plans, and grading permits.

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 Kern County General Plan. California's Climate Scoping Plan calls for local governments to reduce GHG emissions by adopting 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 entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). The Willow Springs Specific Plan was adopted in 1992 and contains goals, policies, and implementation measures that are compatible with those in the KCGP, but are tailored to the particular needs of the Willow Springs area. The recommendations, analysis, and implementation measures in the Willow Springs Specific Plan related to GHG emissions that are applicable to the project are provided below. The Willow Springs Specific Plan contains additional recommendations, analysis, 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 as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Policies

Policy 1: Compliance with the Mitigation/Implementation Measures and enactment of an approved Air Quality Attainment Plan.

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 5: Energy conservation practices, as required by the Subdivision Map Act, Building Energy Efficiency Standards (California Energy Commission, 1988), and State and local laws, shall be incorporated into the design of the individual projects to have the secondary effect of limiting stationary source pollutants both on- and off-site. These standards address insulation and instruction to the original homeowners addressing glazing (window) type shading, heating/cooling system type, thermostats, lighting, water heating equipment, etc.

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 CO_2e per year (22,680 $MTCO_2e$). This impact would be considered to be fully reduced to below the significance level if it meets one of the following conditions:

- The project demonstrates to EKAPCD that it complies with a state GHG reduction plan, such as Assembly Bill 32 or a future GHG reduction plan if it is more stringent than the state plan; or
- Project GHG emissions can be reduced by at least 20 percent below Business As Usual (BAU) through implementation of one or more of the following strategies:
  - Compliance with Best Performance Standard;

- Compliance with GHG Offset; and/or
- Compliance with an Alternative GHG Reduction Strategy.

4.8.4 Impacts and Mitigation Measures

Methodology

The project's potential impacts on GHGs have been evaluated using a variety of resources, including the *Air Quality and GHG Emissions Report* (**Appendix B1**), *Supplemental Air Quality and Greenhouse Gas Modeling Technical Memorandum* (**Appendix B3**), and relevant literature, including information and guidelines by CARB, USEPA, and the applicable provisions of CEQA. Additionally, the GHG savings from a BESS facility with up to 9,200 megawatt-hours (MWh) of battery energy storage capacity were estimated. Using the aforementioned resources and professional judgment, potential impacts were analyzed according to CEQA significance criteria described in the *Thresholds of Significance* section.

Construction and Decommissioning

Emissions from the construction and decommissioning phases of a project are considered short-term because they occur over a relatively brief, finite period of time and do not represent a new permanent source of emissions. Construction of the project would occur over a period of up to two years, with the highest emissions occurring during the first full year, in 2027, during construction of the North and South portions of the project. Accordingly, 2027 represents the maximum annual construction emissions year. For purposes of this analysis, it was conservatively assumed that construction activities in 2028 would generate the same level of emissions as those estimated for 2027.

The California Emissions Estimator Model (CalEEMod) Version 2022.1.1.44 was used to estimate emissions from project construction and decommissioning. The model quantifies both direct emissions, such as those from construction equipment and vehicle use, and indirect emissions, including those associated with energy consumption, waste disposal, water use, and other project-related activities. Construction of the project would result in GHG emissions primarily associated with the use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. Construction emissions were based on a project-specific schedule that included equipment types, duration, and daily operating hours, assuming a five-day workweek. Vehicle trip emissions were estimated using a combination of CalEEMod default trip lengths and vehicle class data, along with project-specific information for worker, vendor, hauling, and onsite truck trips. Detailed construction assumptions are provided in the *Air Quality and GHG Emissions Report* prepared for the project (**Appendix B1**).

The project has an anticipated operational life of up to 35 years, at which time the project proponent would determine whether the project site should be decommissioned and deconstructed or if it would seek an extension of its operation and the appropriate permitting pathways. As project decommissioning activities would be similar to project construction activities (using the same types of equipment and same general activities), the quantified emissions from construction are used as a surrogate for decommissioning activities. However, it is anticipated that emissions from decommissioning activities would be lower than those estimated for construction activities due to future advances in construction equipment technology and efficiency.

Operations

Long-term operational emissions modeling included energy consumption for facility operations, worker commute trips, delivery truck trips, off-road equipment use, and backup generator testing. CalEEMod Version 2022.1.1.44 was primarily used to estimate GHG emissions from operation of the project. Emissions from emergency back-up generators used periodically during operation of the project were estimated via spreadsheet calculations in **Appendix B3**. Operational year 2027 was assumed for this analysis as it is anticipated project operations may commence as early as 2027. Detailed operational assumptions are provided in the *Air Quality and GHG Emissions Report* (**Appendix B1**). Emissions from each source sector (i.e., mobile sources, energy consumption, off-road equipment, and stationary sources) are discussed below:

- **Mobile Sources:** Mobile sources for the project would include worker commute vehicles and delivery trucks traveling to and from the project site. Routine operations would require six full-time employees and one delivery per day. Periodic maintenance was assumed to occur up to 16 days per year and would require six workers and three deliveries per day. Augmentation installation was assumed to take up to 10 days per year and would require 30 workers and 10 deliveries per day. Vehicle miles traveled (VMT) per trip was based on the CalEEMod default Non-Residential Home-Work Trip length, and each worker was conservatively assumed to commute to and from the site alone. Total annual miles traveled for project operations is estimated to be 215,071.

- **Energy**: Project operations would require electricity use for climate control of battery systems and storage facilities, lighting, and other operational needs. Indirect emissions associated with lighting and miscellaneous electricity use were estimated using CalEEMod. Indirect emissions from auxiliary power usage for battery cooling were quantified using spreadsheet calculations and emission factors from CalEEMod. The project would not use natural gas during operation; as such, only GHG emissions from electricity use were estimated.

- **Off-Road Equipment:** The project would utilize off-road equipment during operation for periodic maintenance and augmentation installation. Periodic maintenance was assumed to occur up to 16 days per year and would require a crane, forklift, and tractor/loader/backhoe. Augmentation installation was assumed to take up to 10 days per year and would require a crane, a small crane, and a forklift.

- **Stationary:** The project would include up to four 250-kW diesel-fueled emergency backup generators to provide facility operational redundancies, with two generators located at each collector substation. Each generator would be equipped with a 500-gallon fuel tank. The generators would only operate during power outages and emergency conditions, or for up to 50 hours for periodic maintenance and testing purposes in accordance with CARB's ATCM for Stationary Compression Ignition Engines (17 CCR Section 93115) for Tier 3 engines. Emissions from emergency back-up generators used periodically during operation of the project were estimated via spreadsheet calculations in **Appendix B3**.

During operation, it is anticipated that water would be required for flushing and filling the firewater tanks, as well as for the three operation and maintenance buildings. Water consumption during operations is expected to be less than 3 acre-feet per year. Given that project operation would require minimal water use and generate negligible solid waste, project-related GHG emissions associated with electricity use for water supply and landfill off-gassing would be negligible and were not quantified.

Once operational, the project would provide energy storage capacity with minimal associated GHG emissions. By providing energy storage capacity, the project would facilitate the integration of renewable energy resources and improve grid reliability, resulting in displaced GHG emissions through reduction of demand for power from the grid during peak demand periods that would otherwise be supplied by higher-emitting existing BAU power generation resources (including natural gas, coal, and renewable combustion resources). Total electricity provided by the project through battery storage was assumed to be 1,752,000 megawatt-hours annually beginning in 2028, increasing to 3,358,000 megawatt-hours annually beginning in 2033.

The avoided GHG emissions from grid-supplied power were calculated based on the default CalEEMod CO_2e emission factor for Southern California Edison (SCE) in 2027, 348.18 pounds of CO_2e per megawatt-hour (CalEEMod Guide 2022, Table G-3 User Guide Appendix G, Table G-3). Assuming that SCE would meet the California Executive Order B-55-18 carbon neutrality target in 2045, a linear regression of the SCE GHG emission factor was used to calculate grid emissions from 2027 to 2044. Since GHG emissions would decrease over this period, the project would avoid less grid-related GHG emissions over time. The project is expected to be operational through 2061; however, no GHG emissions are expected from the grid after 2044, so the project would not result in avoidance of GHG emissions between 2045 and 2061. The net GHG emissions reduction for the project was calculated based on the difference between the GHG emissions avoided through energy storage and the GHG emissions generated through construction and operation 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. The State of California has not adopted significance thresholds for this impact area.

The 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 MT or more of CO_2e per year

The above impact would be considered fully reduced to below the significance level if it meets one of the following conditions:

- The project demonstrates to EKAPCD that it complies with a State GHG reduction plan such as Assembly Bill 32 or future federal GHG reduction plan if it is more stringent than the State plan; or
- Project GHG emissions can be reduced by at least 20 percent below business-as-usual through implementation of one or more of the following strategies:
    a. Compliance with a Best Performance Standard;
    b. Compliance with GHG Offset; and/or
    c. Compliance with an Alternative GHG Reduction Strategy.

Additionally, potential 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 were established in accordance with Assembly Bill 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.

Project-related activities would contribute to the generation of GHG emissions during construction and operation and indirectly contribute to the reduction of GHG emissions during operation by providing energy storage capacity, facilitating the integration of renewable energy resources, and displacing higher GHG-emitting resources. The applicable GHGs that have been quantitatively estimated for this project include CO_2, CH_4, and N_2O, presented as emissions of CO_2e. Although SF_6 or other insulating gases are used as insulation in electric power transmission and distribution equipment, their emissions would occur at very low rates due to the gas's low usage and minimal leak rate when contained by electric power equipment. As such, SF_6 or other insulating gas emissions have not been estimated for this project.

Emissions from emergency backup generators have been estimated for this project, as the generators would need to be intermittently run for maintenance and testing purposes over the course of project operations in accordance with CARB's ATCM for Stationary Compression Ignition Engines (17 CCR Section 93115). Emergency backup generators would be operated in accordance with applicable federal, state, regional, and local ordinances and regulations. Appropriate air permits would be obtained from EKAPCD.

Construction and Decommissioning

Construction of the project would result in temporary generation of GHG emissions primarily associated with the use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. **Table 4.8-2**, *Estimated Project Construction, Decommissioning, and Operation GHGs*, shows GHG emissions from the construction and decommissioning phases of the project. GHG emissions from project construction would total approximately 4,152 $MTCO_2e$ over the two-year construction period, or 119 $MTCO_2e$ per year when amortized over the 35-year project lifespan. Emissions from project decommissioning activities were assumed to be the same as emissions from project construction; therefore,

total GHG emissions from project decommissioning would be approximately 4,152 $MTCO_2e$ and amortized emissions would be approximately 119 $MTCO_2e$ per year.

TABLE 4.8-2: ESTIMATED PROJECT CONSTRUCTION, OPERATION, AND DECOMMISSIONING GHGS

Phase		GHG Emissions CO_2e (metric tons)
Project Construction Emissions (year)		
	2027	2,076
	2028[a]	2,076
	Total	**4,152**
Amortized Construction Emissions (over 35 years)		**119**
Projected Amortized Decommissioning Emissions (over 35 years) [b]		**119**
Project Operations Emissions: Equipment (metric tons/year)		**126**
Amortized Operational Emissions: Auxiliary Power (over 35 years)		**844**
Total		**1,208**
EKAPCD Threshold of Significance (metric tons/year) [c]		22,321
Exceed Threshold?		No

Notes: The numbers have been rounded to the nearest metric ton and, therefore, the total values may not add up.

[a] For purposes of this analysis, it was conservatively assumed that construction activities in 2028 would generate the same level of emissions as those estimated for 2027, the maximum annual construction emissions year.

[b] As project decommissioning activities would be similar to project 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.

[c] The EKAPCD Threshold of Significance was taken from EKAPCD's *Addressing GHG Emission Impacts For Stationary Source Projects When Serving As Lead CEQA Agency* (EKAPCD 2012). Although this threshold is intended for project operations only, it was applied to construction emissions for comparison purposes.

Sources: *Air Quality and GHG Emissions Report* (**Appendix B1**), *Supplemental Air Quality and Greenhouse Gas Modeling Technical Memorandum* (**Appendix B3**).

Operation

Once operational, the project would result in GHG emissions from worker commute vehicles and delivery trucks, electricity for climate control of the BESS facility, off-road equipment during periodic maintenance activities, and periodic maintenance and testing of four standby diesel generators.

As shown in **Table 4.8-2**, *Estimated Project Construction, Decommissioning, and Operation GHGs*, the annual operational emissions from equipment and the amortized annual operational emissions from auxiliary power used for battery cooling would total approximately 970 MT per year of CO_2e. Emission estimates for the emergency diesel generators reflect up to 50 hours of operation per engine per year for periodic maintenance and testing purposes in accordance with CARB's ATCM for Stationary Compression Ignition Engines (17 CCR Section 93115) for Tier 3 engines.

The total project-related CO_2e emissions annualized over the project lifetime (35 years) are equivalent to approximately 1,208 MT per year of CO_2e when considering construction, decommissioning, and operational emissions. This value is well below the EKAPCD threshold of 25,000 tons per year of CO_2e (22,680 MT per year of CO_2e). Therefore, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment during any project phase.

In addition, the project would provide up to 9,200 megawatt-hours (MWh) of battery energy storage capacity, facilitating the integration of renewable energy resources and improving grid reliability. As a result, the project would reduce demand for power from the grid during peak demand periods that would

otherwise be supplied by higher-emitting existing BAU power generation resources (including natural gas, coal, and renewable combustion resources). As shown in **Table 4.8-3**, *Displaced GHG Emissions Over 35-Year Operational Lifetime,* the project would potentially displace a net 97,393 $MTCO_2e$ annually that would otherwise be emitted to produce an equivalent amount of energy from fossil fuel sources. Over the operational life of the project, the total net potentially displaced emissions would be approximately 3,408,768 $MTCO_2e$. 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 associated with the project.

TABLE 4.8-3: DISPLACED GHG EMISSIONS OVER 35-YEAR OPERATIONAL LIFETIME

Emissions Category	CO_2e (metric tons)
Net Annual Displaced Emissions	97,393
Net Total Project Displaced Emissions (assumes a 35-year project lifetime)	3,408,768

Sources: *Air Quality and GHG Emissions Report* (**Appendix B1**), *Supplemental Air Quality and Greenhouse Gas Modeling Technical Memorandum* (**Appendix B3**).

Given that the project would result in a net decrease of CO_2e emissions, potential impacts related to the generation of GHG emissions, either directly or indirectly, would be considered less than significant.

SCE Whirlwind Substation Upgrades

The project includes two 220-kV overhead tie-lines to the SCE Whirlwind Substation located on the adjacent parcels to the south of the project site. SCE's work activities outside of the Whirlwind Substation, including tie-line access clearing, installation of telecommunications lines, installation of tie-line support poles or towers, stringing of overhead conductors, and operation and maintenance of the tie-lines to the Point of Change of Ownerships, would disturb all land within a 100-foot-wide corridor centered on each of the offsite tie-line alignments. Within the existing Whirlwind Substation, each tie-line would require the installation of facilities for a new 220 kV switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3.0**, *Project Description*.

Impacts associated with the SCE Whirlwind Substation work are included in the whole-project analysis and detailed in **Appendix B1** and **Appendix B3** of this Draft EIR. Construction associated with the Whirlwind Substation improvements and tie-line corridors would occur over four phases beginning in 2027 and generate GHG emissions through use of on-road vehicles and off-road equipment. Long-term operation and maintenance of the new tie-lines and associated equipment would not result in direct or indirect emissions of GHGs. As stated previously, although SF_6 or other insulating gases are used as insulation in electric power transmission and distribution equipment, their emissions would occur at very low rates due to the gas's low usage and minimal leak rate when contained by electric power equipment. As such, SF_6 or other insulating gas emissions have not been estimated for this project. Operational inspection and maintenance activities for the interconnection equipment would be conducted as part of the overall inspection and maintenance activities of the existing lines. Further, as facilities used to connect battery energy storage to the grid, the SCE Whirlwind Substation upgrade work would contribute to achieving the State's RPS goals and would not conflict with the State goals to reduce GHG emissions. Thus, the net change in emissions from the project's tie-lines and associated equipment would be minimal, and impacts would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

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, potential 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 USEPA, and the Climate Change Scoping Plan, as shown in **Table 4.8-4**, *California Greenhouse Gas Emission Reduction Strategies*. To meet the Senate Bill 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of RPS goals in Senate Bill 350, which require that 50 percent of electricity provided by electric utilities be from renewable sources by 2030 (Senate Bill 350's targets were increased by Senate Bill 100), as well as other measures listed in **Table 4.8-5**, *Consistency With Applicable Scoping Plan Actions For Proposed Project*. Further, as discussed previously, the project is reasonably expected to displace region-wide and Statewide emissions of GHGs over the expected operational life of the project. The project and other similar projects are essential to achieving the RPS.

TABLE 4.8-4: CALIFORNIA GREENHOUSE GAS EMISSION REDUCTION STRATEGIES

Strategy	Project Design/ Mitigation to Comply with Strategy
Vehicle Climate Change Standards: Assembly Bill 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.	These are CARB-enforced standards; vehicles that access the project and are required to comply with the standards would comply with these strategies.
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.	These are CARB-enforced standards; vehicles that access the project and are required to comply with the standards would comply with these strategies.
Diesel Anti-Idling: In July 2004, CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	Project would be subject to State law.

Strategy	Project Design/ Mitigation to Comply with Strategy
Hydrofluorocarbon Reduction: 1) Ban retail sale of HFC in small cans; 2) Require that only low global warming potential refrigerants be used in new vehicular systems; 3) Adopt specifications for new commercial refrigeration; 4) Add refrigerant leak tightness to the pass criteria for vehicular Inspection and Maintenance programs; 5) Enforce federal ban on releasing HFCs.	This measure applies to consumer products. When CARB adopts regulations for these reduction measures, any products that the regulations apply to would comply with the measures.
Transportation Refrigeration Units (TRU), Off-Road Electrification, Port Electrification: Strategies to reduce emissions from TRUs, increase off-road electrification, and increase use of shore-side/port electrification.	Not applicable.
Manure Management: Reduction of volatile organic compounds from confined animal facilities through implementation of control options.	Not applicable.
Alternative Fuels - Biodiesel Blends: CARB would develop regulations to require the use of one to four percent biodiesel displacement of California diesel fuel.	Not applicable.
Alternative Fuels - Ethanol: Increased use of ethanol fuel.	Not applicable.
Achieve 50 percent Statewide Recycling Goal: Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989 (Assembly Bill 939, Sher, Chapter 1095, Statutes of 1989), would 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.	Minimal water use is anticipated during operation of the project and water would be used in an efficient manner to reduce potential impacts to local water resources.

Strategy	Project Design/ Mitigation to Comply with Strategy
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.
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.	Not applicable.

TABLE 4.8-5: CONSISTENCY WITH APPLICABLE SCOPING PLAN ACTIONS FOR THE PROJECT

Sector	Action	Project Consistency
GHG Emissions Reductions Relative to the Senate Bill 32 Target	40% below 1990 levels by 2030	As a battery energy storage facility, one of the project objectives is to support efforts to reduce GHG emissions consistent with California Senate Bill 32, to at least 40 percent below the statewide GHG emissions limit by 2030.
Electricity Generation	Sector GHG target of 38 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) in 2030 and 30 $MMTCO_2e$ in 2035 Meet increased demand for electrification without new fossil gas-fired resources.	The project, as a battery energy storage facility, would facilitate the integration of renewable energy resources and improve grid reliability, helping to meet electricity demand without fossil gas-fired resources.
Combined Heat and Power	Facilities retire by 2040	The energy storage capacity from this project would help enable combined heat and power facilities to retire by 2040.
High GWP Potential Emissions	Low GWP refrigerants introduced as building electrification increases, mitigating HFC emissions	The project would implement use of low GWP refrigerants.
High GWP Gases	SF_6 Leak Reduction Gas Insulated Switchgear	Very low amounts of SF_6 are used as insulation in electric power transmission and distribution equipment in the project, and their emissions would occur at minimal leak rates when contained by electric power equipment.

Source: CARB 2022.

Kern COG's 2022 RTP

The 2022 RTP incorporates local land use projections and circulation networks in city and county general plans. The 2022 RTP is not directly applicable to the project because the underlying purpose of the 2022 RTP is to provide direction and guidance by making the best transportation and land use choices for future development. Nevertheless, the project would not conflict with the goals and policies of the 2022 RTP. In addition, the project would not impact local transportation or land use during operation.

Other Federal/State/Local Policies

Table 4.8-6, *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 and state GHG reporting regulations; therefore, federal and state GHG reporting regulations would not be applicable to the project. As a battery energy storage project, the project would be considered indirectly consistent with California's Emission Performance Standard and RPS requirements; the battery energy storage capacity from the project would help enable compliance with this legislation (described under **Section 4.8.3**, *Regulatory Setting*).

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_2e operating emissions that are well below the 25,000 ton/year rule trigger.
40 CFR Part 52. Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule.	Not applicable	The project would have direct CO_2e operating emissions that are well below the 75,000 ton/year rule trigger.
State		
Senate Bill 1368. EPS Standard.	Indirectly consistent	This regulation is applicable to utilities, not energy storage facilities, but the battery energy storage capacity from this project would help enable compliance with this legislation.
Senate Bill 351. 50% RPS Standard.	Indirectly consistent	This regulation is applicable to utilities, not energy storage facilities, but the battery energy storage capacity from this project would help enable compliance with this legislation.
Senate Bill 100. 60% RPS by 2030 and 100% carbon-free by 2045	Indirectly consistent	This regulation is applicable to utilities, not energy storage facilities, but the energy from this project would help enable compliance with this legislation.
Assembly Bill 32. Annual GHG Emissions Reporting	Not applicable	The project would have direct CO_2e operating emissions that are well below the 10,000 ton/year rule trigger.
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 KCGP Air Quality Element Policies, Goals, and Implementation Measures that would 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 Goals, Policies, and Implementation Measures that would indirectly reduce GHG emissions by reducing fossil fuel combustion.

To achieve the 2030 goal of Senate Bill 32, Senate Bill 350 sets ambitious 2030 targets for energy efficiency and renewable electricity, among other actions aimed at reducing GHG emissions across the energy and transportation sectors, and Senate Bill 100 sets even more ambitious renewable energy targets. The project involves the construction and operation of a battery energy storage facility that would facilitate the integration of renewable energy resources and improve grid reliability. As a result, the project would reduce demand for power from the grid during peak demand periods that would otherwise be supplied by higher-emitting existing BAU power generation resources (including natural gas, coal, and renewable combustion resources). Therefore, the project would directly support California's Renewable Portfolio Standard goal under Senate Bill 100 of increasing the percentage of electricity procured from renewable sources to 60 percent by 2030 and a target of 100 percent from eligible renewable energy resources and zero-carbon

resources by 2045. The project additionally supports California's goal to increase renewable electricity procurement to 50 percent by 2030 as it facilitates the integration of renewable energy resources and improves grid reliability.

Global warming and climate change are a worldwide phenomenon, and project-level emissions cannot be correlated with specific impacts based on currently available science. However, based on the analysis above, the project would be consistent with California's strategies to reduce GHG emissions to the levels required by Assembly Bill 32, as well as state GHG emission reductions post-2020. As a battery energy storage facility providing up to 9,200 MWh of battery energy storage capacity, the project would contribute to achieving the mandated emission reduction targets established by Assembly Bill 32. Additionally, the project would comply with any applicable forthcoming regulations or requirements adopted under Assembly Bill 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.

SCE Whirlwind Substation Upgrades

As previously discussed, SCE would complete upgrades to facilitate interconnection of the project to the Whirlwind Substation as described in **Chapter 3**, *Project Description*. All new and upgraded infrastructure and equipment related to these improvements would be engineered, constructed, operated, and maintained by SCE. The tie-line and substation improvements work would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG. The SCE Whirlwind Substation upgrades would connect battery energy storage to the grid, contributing to achieving the State's RPS goals. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

4.8.5 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, the County has not adopted quantitative thresholds for determining significance of GHG emissions at the time of this writing. However, EKAPCD has adopted an addendum to its CEQA Guidelines titled: "Addressing GHG Emission Impacts for Stationary Source Projects When Serving as the Lead CEQA Agency" (EKAPCD 2012). This addendum is the policy that EKAPCD would use when it is the lead agency for CEQA to determine the project-specific and cumulative significance of GHG emissions from new and

modified stationary source (industrial) projects. Under this policy, a project is considered to have a cumulatively considerable impact if it generates 25,000 metric tons or more of CO_2e per year.

As shown in **Table 4.8-2**, *Estimated Project Construction, Decommissioning, and Operation GHGs*, estimated annual project-generated GHG emissions would be approximately 1,208 $MTCO_2e$. In addition to these project GHG emissions, other cumulative projects in the vicinity of the project site, identified in **Chapter 3**, *Project Description*, largely consist of utility-scale alternative power generation (i.e., solar and wind) 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 Assembly Bill 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of the RPS target of 50 percent by 2030. In order to meet the Senate Bill 32 GHG emissions reduction mandate, the 2022 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 Senate Bill 100 to 60 percent by 2030 and 100 percent carbon-free by 2045. The project and other similar projects are essential to achieving the RPS and the State's 2045 goal for 100 percent carbon-free electricity.

The main contribution of GHG emissions from the project would be from construction equipment usage during the construction phase, motor vehicle trips by employees and maintenance vehicles during project operations, and operational auxiliary power usage for battery cooling. Transportation sources account for 37 percent of California's total GHG emissions (CARB 2025). 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. Indirect emissions associated with battery cooling during project operations would be offset by the much higher amount of GHG emissions avoided due to reduced demand for power from the grid during peak demand periods that would otherwise be supplied by higher-emitting existing BAU power generation resources (including natural gas, coal, and renewable combustion resources).

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. As shown in **Table 4.8-3**, *Displaced GHG Emissions Over 35-Year Operational Lifetime*, it is estimated that the project would displace approximately 3,408,768 $MTCO_2e$ over a 35-year lifespan. Overall, the project would not contribute to cumulative GHG emissions in California because operation of the project would provide battery energy storage capacity 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 be less than significant.

SCE Whirlwind Substation Upgrades

As provided in the analysis, the GHG emissions associated with the SCE Whirlwind Substation improvements would be less than significant. The SCE tie-line and substation improvements would not generate GHG emissions, either directly or indirectly, with the potential to significantly affect the environment, and would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG. Any emissions would be negligible and well below EKAPCD's thresholds. Further, as facilities used to connect battery energy storage to the grid, SCE Whirlwind Substation improvements work would contribute to achieving the State's RPS goals and would not conflict with the state goals to reduce GHG emissions. Cumulative impacts would be less than significant; thus, no mitigation measures are required.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Cumulative impacts would be less than significant.

Section 4.9

Hazards and Hazardous Materials

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Section 4.9
Hazards and Hazardous Materials

4.9.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the affected environment and regulatory setting pertaining to hazards and hazardous materials. This section also evaluates the potential impacts of the project on human health and the environment due to exposure to hazardous materials or conditions associated with the project site, project construction, operation, and decommissioning. It also presents mitigation measures that would reduce these impacts, where applicable. Information in this section is based on the *Phase I Environmental Site Assessment* (ESA) (**Appendix G**), *Preliminary Plume Study* (**Appendix J**), and publicly available information from the California Department of Forestry and Fire Protection (CAL FIRE). In addition, other publicly available databases were consulted, including EnviroStor, from the California Department of Toxic Substances Control (DTSC), and GeoTracker, from the California State Water Resources Control Board (SWRCB).

4.9.2 Environmental Setting

This section discusses the existing conditions related to hazards and hazardous materials in the project site and surrounding area, describing the environmental setting for hazardous material sites, air traffic, EMF, and wildland fire hazards. A complete description of the project and project site, including the regional location, project boundary, and surrounding land uses, can be found in **Chapter 3**, *Project Description*.

Existing Setting

The project site is at the northern edge of the Antelope Valley in Kern County, California. The site is situated approximately 8 miles west of the unincorporated community of Rosamond and approximately 17 miles south of the incorporated City of Tehachapi. The project site has relatively flat terrain with site elevations ranging from approximately 2,764 to 2,827 feet above mean sea level. The topographic slope is generally flat with a slight southward slope.

Current Uses Surrounding the Project Site

The areas surrounding the project site include undeveloped lands, renewable energy generation facilities, the Southern California Edison (SCE) Whirlwind Substation, transmission and communication infrastructure, and sparse rural residential. The closest school to the project site is Tropico Middle School, approximately 12 miles to the east. The nearest residences are approximately 0.13 miles to 0.23 miles northeast of the closest approach to the project boundary.

No portion of the project is located within an area governed by the Kern County Airport Land Use Compatibility Plan (ALUCP). The closest airport is a private landing strip located more than 12 miles east of the project site.

Historical Property Use

Historical information regarding the subject property and local area is based on review and analysis of historical aerial photographs, topographic maps, city directories, and an environmental database report. And the internet provided additional historical information regarding the subject property and local area.

Based on historical aerial maps, the project site has consisted of undeveloped desert land since the early 1900s. The unimproved utility access roads that bisect portions of the project site were graded in approximately 2010. Additionally, the project site is not listed in a contamination, chemical spill, compliance, or hazardous-waste generation-related database (**Appendix G**).

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).

Hazardous materials can pose significant risks, including death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property. These hazards can occur during production, storage, transportation, use, or disposal of hazardous materials, impacting both human health and the environment.

The DTSC defines hazardous waste as a waste with properties that make it potentially dangerous or harmful to human health or the environment. They can be the by-products of manufacturing processes, discarded used materials, or discarded unused commercial products, such as cleaning fluids (solvents) or pesticides. In regulatory terms, a hazardous waste is a waste that exhibits one of the four characteristics of a hazardous waste: ignitability, corrosivity, reactivity, or toxicity. However, materials can be hazardous waste even if they are not specifically listed or do not exhibit any characteristic of a hazardous waste. For example, "used oil" products, which contain materials on California's M-list (which includes certain wastes known to contain mercury, materials regulated pursuant to the mixture or derived-from rules, and contaminated soil generated from a "clean up") can also be hazardous wastes.

"Recognized environmental concern" (REC) is one of the terms used to identify environmental liability within the context of a Phase I ESA. REC is defined as follows:

> *The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions* (ASTM International 2021).

The DTSC maintains the Envirostor online data management system, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup

information. This site cleanup information includes Federal Superfund Sites National Priorities List (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Corrective Action Sites, Tiered Permit Sites, and Evaluation/Investigation Sites. The hazardous waste facilities include Permitted–Operating, Post-Closure Permitted, and Historical Non-Operating.

The Envirostor database was reviewed to evaluate whether the project area, including the SCE Whirlwind Substation and tie-line corridors, has been subject to environmental contamination, cleanup, or remediation. The review did not identify any records for the project area.

Energy Storage Systems

The project would comply with California Fire Code (CFC) Chapter 12, Section 1207 (Stationary Energy Storage Systems), applicable County standards, National Fire Protection Association (NFPA) 855 (Standards for the Installation of Stationary Energy Storage Systems), and any other applicable codes. These codes govern design, installation, commissioning, operation, maintenance, and decommissioning, and require approval by the Authority Having Jurisdiction. The project would be constructed to meet all Kern County Fire Department (KCFD) requirements, including gate access, on-site road design, fire hydrants, safety equipment, and other fire safety requirements.

In addition, systems must be listed and labeled to Underwriters Laboratories (UL) 9540 (Energy Storage Systems and Equipment), with components conforming to applicable standards (e.g., UL 1973 for batteries and UL 1741 for inverters), and must undergo fire testing using UL 9540A (propagation test method) and large-scale fire testing as referenced by NFPA 855 and the CFC. Together, these standards impose stringent requirements for seismic and structural design, thermal management, detection and alarm, gas/deflagration control, equipment spacing, fire-flow and water supply, site access, signage, security, vegetation management, and minimum setbacks from lot lines, roads, and adjacent buildings. Compliance is intended to ensure safe installation and operation for site personnel, first responders, and neighboring communities.

Battery energy storage systems (BESS) generally have a low likelihood of igniting or catching fire due to the use of nonflammable material and the absence of nearby flammable vegetation or materials. However, there is still the possibility of BESS facilities catching fire under certain circumstances or being damaged by fire. Lithium-ion batteries can fail by “thermal runaway,” where overheating in a single faulty cell can propagate to neighbors with energy releases popularly known as “battery fires” (Fordham et al. 2021).

Smoke from many fires, including battery fires, is considered hazardous. Smoke typically includes asphyxiant gases, irritant toxic gases, and particulate matter. The introduction of water to a fire may change the composition of the smoke and can create water runoff, which may also contain hazardous substances. A significant amount of the gas released during thermal runaway is carbon monoxide (CO), which is toxic. Depending on the conditions, the combustion of battery gases may burn off some (or create additional) CO from partially reacted hydrocarbons. Smaller amounts of other toxic gases may also be released, depending on the cell, whether the gases burn, and if water or other suppression agents are added.

Failure of lithium-ion cells may result in gas production inside the cells. When enough gas is produced, a safety vent may open, or the cell package may rupture. The gas mixture released is flammable and toxic and is primarily made up of CO, carbon dioxide (CO_2), hydrogen (H_2), and an assortment of hydrocarbons. If ignited, the combustion of these gases can lead to a fire or an explosion.

When a lithium-ion cell is exposed to high temperatures, such as those due to fire exposure or propagating thermal runaway, it produces toxic compounds. Plastic contained in the battery system may contribute to these toxic combustion products. Such products may include CO, nitrogen oxides (NOx), sulfur dioxide

(SO_2), hydrogen chloride (HCl), and hydrogen fluoride (HF). The quantity of HF produced is related to the electrolyte solvent and the chemical reactions initiated. CO_2, H_2, and methane (CH_4) are asphyxiant gases, or gases that can cause unconsciousness or death by suffocation because they displace oxygen in the air. HF, HCl, SO_2, and nitrogen dioxide (NO_2) have a toxic and irritating effect that can be significant even at very low concentrations. HCl, SO_2, and NO_2 cannot be absorbed through the skin. HF, on the other hand, is not only severely irritating to the respiratory tract but can also penetrate skin and other tissues as the fluoride ion. When HF comes into contact with moisture, it can form hydrofluoric acid.

In evaluating harmful levels of toxic gases, it is helpful to reference levels known as IDLH (Immediately Dangerous to Life or Health) and AEGLs (acute exposure guideline levels). Reference levels of IDLH and AEGLs for toxic chemicals that can be present during battery failure are presented in **Table 4.9-1**. According to the Code of Federal Regulations (CFR), IDLH is defined as a concentration of any toxic, corrosive, or asphyxiant substance that poses an immediate threat to life, would cause irreversible or delayed adverse health effects, or would interfere with an individual's ability to escape from a dangerous atmosphere.

TABLE 4.9-1: TOXIC CHEMICALS THAT CAN BE PRESENT DURING BATTERY FAILURE AND CONCENTRATIONS OF INTEREST

Chemical	IDLH (ppm)	AEGL-3 (ppm)	AEGL-2 (ppm)	AEGL-1 (ppm)
Carbon Monoxide	1,200	600	150	NR
Carbon Dioxide	40,000	NR	NR	NR
Hydrogen Chloride (HCl)	50	210	43	1.8
Hydrogen Cyanide (HCN)	50	21	10	2.5
Hydrogen Fluoride (HF)	30	62	34	1
Nitrogen Dioxide (NO2)	13	25	15	0.50
Nitric Oxide (NO)	100	NR	NR	NR
Sulfur Dioxide (SO2)	100	30	0.75	0.20
Benzene (C6H6)	500	5,600	1,100	73
Toluene (C6H5CH3)	500	5,200	760	67

Notes:

The AEGL values shown are for a 30-minute exposure.

Key: NR = Not recommended due to insufficient data

The AEGLs were developed by the U.S. Environmental Protection Agency (USEPA) to define the health effects of a once-in-a-lifetime exposure to airborne chemicals. AEGLs are used by emergency responders when dealing with major chemical leaks, spills, or other exposures. AEGL concentrations are provided for different exposure times and health effect levels. Level 1 is discomfort or irritation, Level 2 is the onset of irreversible or serious health effects, and Level 3 describes life-threatening health effects. Typically, carbon monoxide is the most significant toxicity hazard among the measured gases due to a comparatively low IDLH value and relative abundance in most battery gases (**Appendix J**).

Electromagnetic Fields

Electromagnetic fields (EMFs) are associated with electromagnetic radiation, which is energy in the form of photons. Radiation energy spreads as it travels and originates from many natural and human-made sources. The electromagnetic spectrum, the scientific name given to radiation energy, includes various forms, such as light, radio waves, and X-rays. Electric and magnetic fields are common throughout nature and are produced by all living organisms. Concern over EMF exposure generally pertains to human-made sources of electromagnetism and the extent to which they may have adverse biological effects or interfere with other electromagnetic systems.

Commonly known human-made sources of EMFs are electrical systems, such as electronics and telecommunications, as well as electric motors and other electrically powered devices. Radiation from these sources is invisible, non-ionizing, and of low frequency. In most environments, the levels of such radiation added to natural background sources are generally 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 project includes tie-lines and would interconnect to the existing power grid via connection to the SCE Whirlwind Substation. 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. The CPUC created a working group of interested parties, the California EMF Consensus Group, to advise on this issue. The group's fact-finding process was open to the public, its report incorporated public concerns, and 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, the 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.

Hazardous Materials Transportation

The nearest major highways are State Route (SR)-138, a two-lane highway approximately 6 miles south of the project site, and SR-14, a four-lane highway approximately 15 miles east of the project site. The transportation of hazardous materials within the State of California is regulated by a combination of federal, State, and local laws. It is unlawful to transport explosives or inhalation hazards on public highways not designated for that purpose, unless such use is necessary to complete a delivery or access the loading/unloading location of such materials (California Vehicle Code, Sections 31602 (b) and 32104(a)). The California Highway Patrol (CHP) designates specific routes 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 and Air Traffic

Over 12 miles east, the private Rosamond Airport is nearest to the project site. Airfields also have designated safety zones, known as Imaginary Surface Areas, to control development and minimize hazards to flight safety. The nearest imaginary surface areas are also associated with Rosamond Airport; however, they are approximately 8.85 miles east of the project site. No portion of the project site is located within an area governed by the Kern County ALUCP.

The project site is overlaid by various Military Training Routes (MTRs), including Visual Routes (VRs) and Instrument Routes (IRs). The MTRs and the associated details are listed in **Table 4.9-2**, *Military Training Routes Overlapping the Project Site*, and shown on **Figure 4.9-1**, *Military Flight Operation Areas*. VR-1262 is the closest to the project site and allows the lowest flight altitude.

TABLE 4.9-2: MILITARY TRAINING ROUTES OVERLAPPING THE PROJECT AREA

Name/Number	Segment	Corridor Width	Minimum Altitude	Maximum Altitude	Hours of Operation
IR-200	G	4 NM either side of centerline	1,500 feet AGL	9,000 feet MSL	Sunrise to Sunset
IR-211	E	2 NM either side of centerline	200 feet AGL	8,000 feet MSL	Continuous
IR-425	AF	4 NM either side of centerline	500 feet AGL	110,000 feet MSL	Sunrise to Sunset
VR-1257	H	2 NM either side of centerline	1,000 feet AGL	1,500 feet AGL	Daylight Hours
VR-1262	F	5 NM either side of centerline	200 feet AGL	1,500 feet AGL	Daylight Hours
VR-1265	C	2 NM either side of centerline	1,000 feet AGL	1,500 feet AGL	Continuous

Key: AGL = Above Ground Level; IR = Instrument Route; MSL = Mean Sea Level; NM = Nautical Miles; VR = Visual Route
Source: NGA 2026.

The nearest restricted airspace is approximately 7 miles northeast. This includes the Isabella Military Operations Area (MOA) and the Joint Service Restricted R-2508 Complex of the Edwards Air Force Base (see **Figure 4.9-1**, *Military Flight Operation Areas*).

Vertical development within controlled airspace (i.e., MTRs, imaginary surface areas, MOAs, restricted areas, etc.) is evaluated for compatibility using the FAA's Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) process. The FAA process coordination with the Department of War occurs through the Military Aviation and Installation Assurance Siting Clearinghouse. Using the FAA's Pre-Screening Tool, the tallest proposed structures (tie-line structures at 200 feet) were analyzed. It was determined that the vertical structures associated with the proposed project do not require notice to the FAA under Title 14 of the Code of Federal Regulations (14 CFR) Part 77 (FAA 2026).

Per Kern County Zoning Ordinance Section 19.08.160, no zone modification or zone variance may be approved for any structure or building that exceeds the maximum permitted heights, unless the military authority responsible for operations in that flight area first provides the planning director with written concurrence that the height of the proposed structure or building would create no significant military mission impacts. As shown in **Figure 4.9-2**, *Kern County Zoning Ordinance Figure 19.08.160*, the project is located within a yellow-designated area, where military review is required for structures exceeding 500 feet in height. As described in **Chapter 3**, *Project Description*, all project components, including the tie-line structures, would be 200 feet or less in height; therefore, military review is not required for the project.

Figure 4.9-1: Military Flight Operation Areas

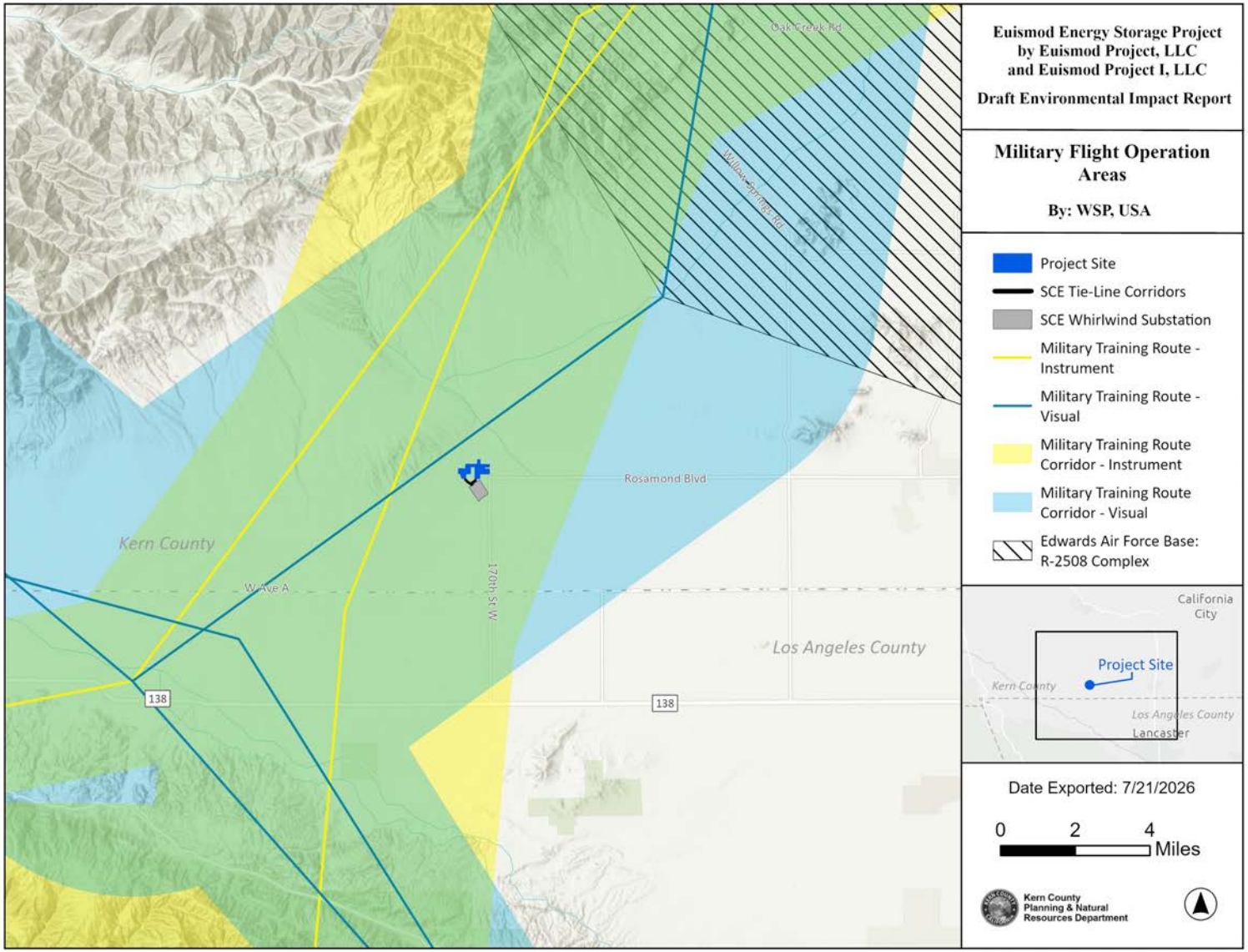
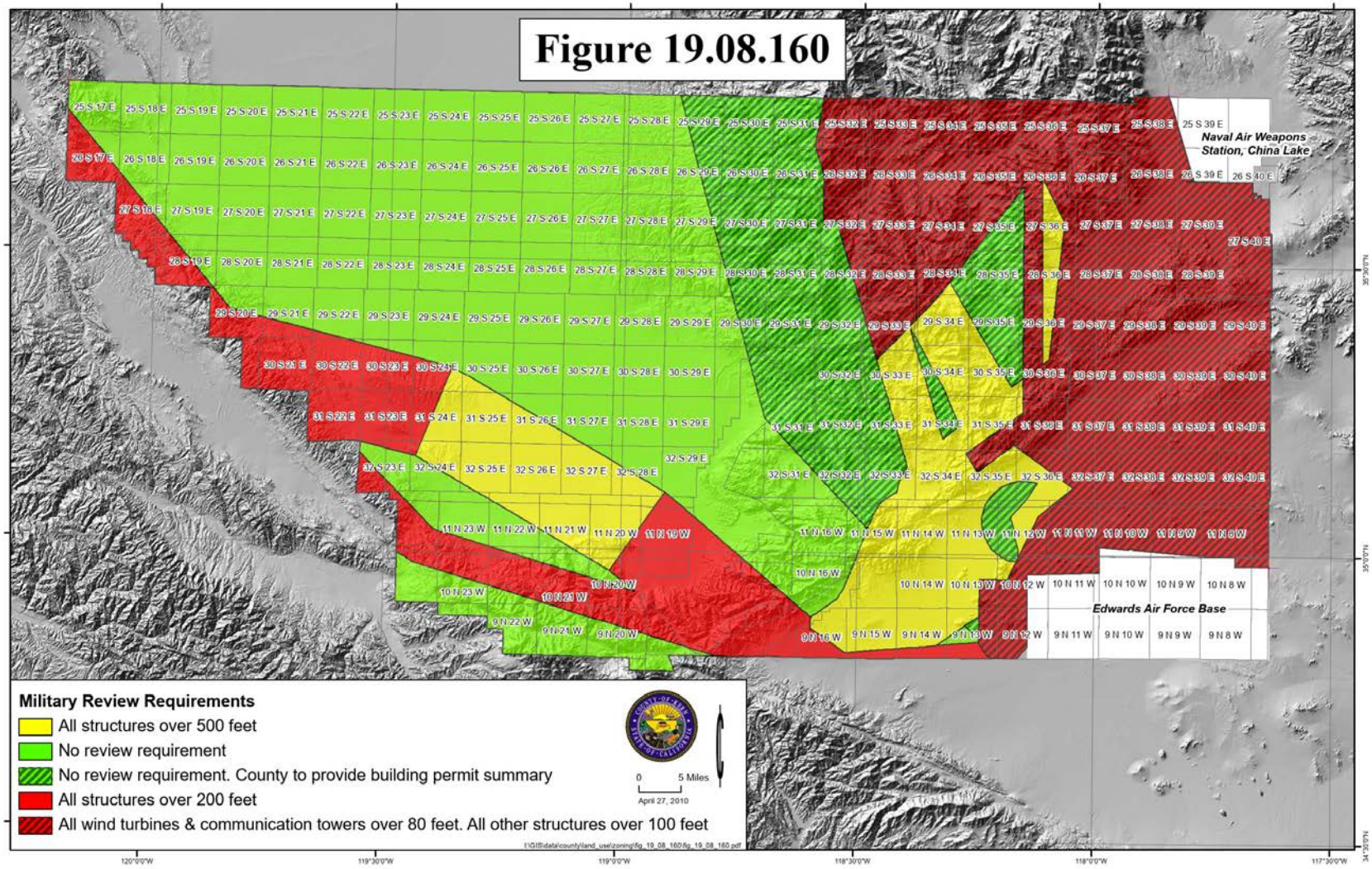


Figure 4.9-2: Military Review Requirements



Source: Kern County 2009.

Fire Hazard Areas

CAL FIRE requires California counties to develop fire protection management plans that address potential threats of wildland fires. The Kern County Wildland Fire Management Plan identifies federal, State, and local responsibility areas for the entire county to facilitate coordination efforts for fire protection services. According to the CAL FIRE Kern County Fire Hazard Severity Zone (FHSZ) Maps for Local Responsibility Areas (LRAs) and State Responsibility Areas (SRAs), the project site is classified as LRA Moderate (CAL FIRE 2025). Given this designation, the project site is outside of areas identified by CAL FIRE as having a very high wildfire hazard level. The project site is within a moderate FHSZ, which is typically characterized by low fire frequency and relatively mild fire behavior. The closest Very High FHSZ is approximately 5 miles south of the project site. The landscape of the project site consists primarily of low topographic relief and sparse vegetation with little potential for fuel buildup. Potential impacts related to wildfire hazards are further discussed in **Section 4.18**, *Wildfire*.

Disease Vectors

A disease vector is an insect or animal that carries a disease-producing micro-organism from one host to another. The Federal Insecticide, Fungicide and Rodenticide Act (7 United States Code [U.S.C.] Section 136 et seq.) defines the term vector as "…any organism capable of transmitting the causative agent of human disease or capable of producing human discomfort or injury, including mosquitoes, flies, fleas, cockroaches, or other insects and ticks, mites or rats."

The accumulation of organic wastes can attract various vectors. In addition, any depressed areas, ponds, or drainage channels provide areas for the breeding of mosquitoes.

Mosquitoes

Mosquitoes are of particular concern because of their abundance and distribution. Mosquitoes require standing water to breed and can be prolific in areas with standing water, such as wetlands. Detections of West Nile virus mosquitoes are recorded throughout Kern County, such as in Bakersfield, Shafter, and Buttonwillow (VectorSurv Maps 2026).

Adult female mosquitoes can deposit eggs in a variety of aquatic habitats and other sources that contain water. The immature stages of each mosquito species develop in particular habitats. In general, there are four mosquito habitat groups: agricultural, industrial, domestic, and natural sources. Typical sites within these habitat groups include the following:

- Agricultural Sources: irrigated pastures, dairies, orchards
- Industrial Sources: sewage treatment ponds and drain ditches
- Domestic Sources: containers, debris in and around ponds, bird baths, pet watering dishes, animal troughs, septic tanks, catch basins, roadside ditches, leaky sprinkler systems, and stagnant swimming pools
- Natural Sources: wetlands, floodplains, rain pools

All species of mosquitoes require standing water to complete their growth cycle. Therefore, any standing body of water represents a potential mosquito breeding habitat. Although mosquitoes typically stay close to suitable breeding habitat and blood-meal hosts, they are known to travel up to 10 miles under breezy

conditions. The breeding period for mosquitoes depends on temperature but generally occurs in March through October. In Kern County, mosquitoes are most abundant and active between May and October.

Water quality also affects mosquito reproduction. Generally, poor-quality water (for example, water with limited circulation, high temperature, and high organic content) produces greater numbers of mosquitoes than high-quality water (for example, water with high circulation, low temperature, and low organic content). Typically, water bodies with water levels that slowly increase or recede produce greater numbers of mosquitoes than water bodies with water levels that are stable or that rapidly fluctuate.

In Kern County, the Kern Mosquito and Vector Control District is responsible for vector control, and the project would be serviced by this district.

Mosquito-Borne Diseases

Mosquitoes are known to be the carriers of many serious diseases. West Nile virus is the most important mosquito-borne disease affecting Kern County. In 2025, there were 116 West Nile virus infections in California (CDPH 2026). Of these cases, 19 (16.4 percent) were in Kern County.

In September 2002, the Kern County Department of Health formed a West Nile Virus Task Force and subsequently released reports documenting cases, developed strategies to prevent the occurrence of West Nile virus, and generated public education information, such as information pamphlets. Statewide, there are 52 local agencies, including local mosquito abatement districts and the California Department of Health Services Arbovirus Field Testing Stations, which work cooperatively to routinely conduct surveillance and control of mosquitoes and the diseases they transmit throughout California.

Mosquito Species of Concern

In Kern County, two species of mosquito are primary targets for suppression: *Culex pipiens quinquefasciatus* and *Culex tarsalis*; these species are potential vectors of encephalitis and West Nile virus. A total of 26 species of mosquitoes exist in Kern County that can cause a substantial nuisance in surrounding communities, but the members of the Culex genus are the primary vector species of concern.

Although a number of mosquito species can transmit West Nile virus, Culex is the most common carrier. This disease is thought to be a seasonal epidemic that flares up in the summer and fall. West Nile virus is spread when mosquitoes that feed on infected birds bite humans and other animals.

The encephalitis mosquito (*Culex tarsalis*) breeds in almost any freshwater pond. Birds appear to be the primary blood-meal hosts of this species, but the insect will also feed on domestic animals and humans (CDPH 2008). This species is the primary carrier in California of western equine encephalitis, St. Louis encephalitis, and California encephalitis, and is considered a significant disease vector of concern in the State.

The house mosquito (*Culex pipiens quinquefasciatus*) usually breeds in waters with a high organic material content. This species is often identified by its characteristic buzzing. Although its primary blood-meal host is birds, the house mosquito may also seek out humans. The house mosquito is a vector of St. Louis encephalitis.

Flies

Nuisance flies have a life cycle comprised of an egg stage, a larval stage, a pupal stage, and an adult stage. Eggs are laid by a mature female fly onto a substrate appropriate for larval development. A single female can lay hundreds of eggs during her life. Nuisance fly larvae (grubs) are generally white in color and are

blunt-ended. They develop in wet substrates, especially dung pats and manure and wet or rotting feed, hay, and bedding straw, where they feed on food particles found on the substrate. Fly larvae are not capable of developing in truly aqueous habitats; they need wet, but not overly wet, substrates.

Within the confines of a pupal case, the developing fly will undergo further changes to become a winged adult fly that will eventually emerge from the pupal case and disperse from the site. The length of time required to complete the development from egg to adult is temperature-dependent and may be as short as seven days during the summer months in California.

Some nuisance flies are blood feeders and can inflict a painful bite while feeding on animals or humans. Blood-feeding (or biting) flies include the stable fly and horn fly. Other flies do not bite (non-biting flies), instead feeding on body secretions or liquefied organic matter. Non-biting flies include the house fly, face fly, and garbage fly.

Adult flies are generally active during daylight hours and inactive at night. Nuisance flies are known to disperse from their development sites into surrounding areas; however, the distance and direction of dispersal are not well understood. Non-biting nuisance fly species are likely to disperse further than those fly species that require animal blood meals. The habitat surrounding a breeding site will play a role in the distance of nuisance fly dispersal. Nuisance flies will likely disperse further in open habitats typical of rangeland and low agricultural crops than they will in urban or forested/orchard areas that contain substantially more vertical structure on which flies may rest and that provide shade and higher humidity on hot summer days.

Most nuisance flies are not known to disperse great distances. Studies using marked house flies show that 60 to 80 percent of house flies were captured within 1 mile of their release point; 85 to 95 percent were caught within 2 miles of the release site within the first four days after they were turned loose (University of Kentucky 1997). A few flies have been shown to travel farther, but in general, fly control efforts for a community problem are focused within 1 mile of the source.

Rodents

The accumulation of organic waste presents the potential for significant populations of mice and rats. Rodents can spread or accelerate the spread of disease from contaminated areas to uncontaminated areas via their droppings, feet, fur, urine, saliva, or blood. Rodents can transmit the hantavirus, which spreads through urine, droppings, and saliva of rodents, specifically deer mice. However, the spread is not common, and from 1980 to 2024, there have been 79 cases of hantavirus in California, with four of those cases occurring in Kern County (KCPH n.d.). In addition, mice provide a food source that could attract wild predatory animals (skunks, foxes, coyotes, stray dogs), which could pose other disease problems.

Mice are generally nocturnal and secretive animals with keen senses of taste, hearing, smell, and touch. They are small enough to enter any opening larger than one-quarter of an inch. Mice prefer cereal grains, if available, but will eat garbage, insects, meat, and even manure. Mice reproduce at high rates, making early control important in minimizing the potential for infestation. Although the life span of a mouse is only nine to 12 months, a female mouse can have five to 10 litters per year with five or six young in each litter. While mice do not consume large quantities of food, they can cause significant economic damage due to physical structure damage and site contamination.

4.9.3 Regulatory Setting

Federal

U.S. Environmental Protection Agency

The USEPA was established in 1970 to consolidate 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 issuing permits and for monitoring and enforcing compliance. Where national standards are not met, the USEPA can issue sanctions and take other steps to assist states and tribes in reaching the desired levels of environmental quality.

Federal Toxic Substances Control Act, Resource Conservation and Recovery Act, and Hazardous and Solid Waste Act

The Federal Toxic Substances Control Act (1976) and Resource Conservation and Recovery Act (RCRA) of 1976 established a program administered by the USEPA to regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. The RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes.

Comprehensive Environmental Response, Compensation, and Liability Act and Superfund Amendments and Reauthorization Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as "Superfund," was enacted by Congress on December 11, 1980. This law (42 U.S.C. 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enables the revision of the National Contingency Plan (NCP). The NCP (Title 40 CFR Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the NPL. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986. SARA reflected the USEPA's experience in administering the complex Superfund program during its first six years and made several important changes and additions to the program. SARA also required the USEPA to revise the Hazard Ranking System to ensure that it accurately assessed the relative degree of risk to human health and environment posed by uncontrolled hazardous waste sites that may be placed on the NPL.

Emergency Planning and Community Right-to-Know Act

Under the Emergency Planning and Community Right-to-Know Act, or Title III of the SARA, the USEPA requires local agencies to regulate the storage and handling of hazardous materials and requires the development of a plan to mitigate the release of hazardous materials. Businesses that handle any of the

specified hazardous materials must submit an inventory of the hazardous materials, an Emergency Response Plan, and an employee training program to government agencies (i.e., fire departments or public health departments). The business plans must provide a description of the types of hazardous materials/waste on-site and the location of these materials. The information in the business plan can then be used in the event of an emergency to determine the appropriate response action, the need for public notification, and the need for evacuation.

In 1990, Congress passed the Pollution Prevention Act, which requires facilities to report additional data on waste management and source reduction activities to the USEPA under the Toxics Release Inventory Program. The goal of the Toxics Release Inventory is to provide communities with information about toxic chemical releases and waste management activities and inform industry, government, nongovernmental organizations, and the public regarding decision-making.

Clean Water Act and Spill Prevention, Control, and Countermeasure Rule

The Clean Water Act (CWA) (33 U.S.C. 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 (WOTUS). The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. The National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402) regulates discharges to WOTUS.

In California, NPDES permitting authority is delegated to and administered by the nine Regional Water Quality Control Boards (RWQCBs). The project site is located within the jurisdiction of the Central Valley RWQCB. CWA Section 402 authorizes the California SWRCB to issue an NPDES Construction Stormwater General Permit referred to as "Construction General Permits." Projects that disturb one or more acres are required to obtain NPDES coverage under the Construction General Permits. Construction activities can comply with and be covered under a Construction General Permit provided they do the following:

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) specifying best management practices (BMPs) that would 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, ephemeral streams, and other receiving waters.
- Perform inspections of all BMPs.

Other federal regulations overseen by the USEPA that are relevant to hazardous materials and environmental contamination include 40 CFR Chapter 1, Subchapter D – Water Programs and Subchapter I –Solid Wastes. 40 CFR Chapter 1, Subchapter D, Parts 116 and 117, designate hazardous substances under the CWA. Part 116 sets forth a determination of the reportable quantity for each substance that is designated as hazardous, and Part 117 applies to quantities of designated substances equal to or greater than the reportable quantities that may be discharged into WOTUS.

Safe Drinking Water Act of 1974

The Safe Drinking Water Act (42 U.S.C. Section 300f et seq.) regulates the amount of toxic substances in drinking water sources. The act requires the USEPA to develop minimum federal requirements for

Underground Injection Control (UIC) programs and other safeguards to protect public health by preventing injection wells from contaminating an underground source of drinking water. The UIC sections are as follows:

- Section 1421 identifies which state regulations must be included in the UIC program.
- Section 1422 outlines the process for state primacy applications, including timelines and public participation requirements.
- Section 1423 sets forth enforcement of the UIC program.
- Section 1425 describes optional demonstrations that a state may make for the portion of the UIC program relating to oil and natural gas operations.
- Section 1426 requires the administrator to determine the applicability of monitoring methods.
- Section 1431 authorizes emergency powers that the USEPA may implement in a state if there is imminent and substantial endangerment.
- Section 1442 addresses the USEPA's authority to conduct research, studies, training, and demonstrations, specifically looking at improved methods for protecting underground sources of drinking water.
- Section 1443 establishes grants for primacy programs.

The USEPA developed UIC program requirements, but states, territories, and tribes can obtain primary enforcement responsibility or primacy. State regulations must be at least as stringent as federal requirements.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act (HMTA) is the federal legislation that regulates the transportation of hazardous materials. The HMTA directs the Secretary of the U.S. Department of Transportation (USDOT) to establish, implement, and maintain regulations for the safe and secure transportation of hazardous materials in commerce, as amended and codified in 49 U.S.C. 5101 et seq. To accomplish the responsibilities under the HMTA, the Secretary established the hazardous materials regulations (HMR). The HMR applies to any material that the USDOT determines can pose an unreasonable risk to health, safety, and property when transported in commerce. Lithium-ion batteries must conform to all applicable HMR requirements when offered for transportation or transported by air, highway, rail, or water.

The HMR also requires immediate notice of hazardous materials incidents within 12 hours. A Hazardous Materials Incident Report on USDOT Form F 5800.1 is required for hazardous materials incidents and in instances such as the unintentional release of a hazardous material and a fire, violent rupture, explosion, or dangerous evolution of heat as a direct result of a battery or battery-powered device.

Polychlorinated Biphenyls Regulations

Starting in 1979, the USEPA prohibited the use of polychlorinated biphenyls (PCBs) in the majority of new electrical equipment and initiated a phase-out for much of the existing PCB-containing equipment. The inclusion of PCBs in electrical equipment and their handling are regulated by the provisions of the Toxic Substances Control Act. Relevant regulations include labeling and periodic inspection requirements for certain types of PCB-containing equipment, outlining highly specific safety procedures for disposal.

Additionally, Title 40 Part 761, PCBs Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions, of the CFR provides specific authorizations allowing electric utilities to continue using transformers and other electrical equipment that contains PCBs for the remainder of their useful lives subject to specific use conditions and disposal requirements. In accordance with USEPA prohibitions, no PCB-containing equipment would be used at the project.

Federal Aviation Administration

The Federal Aviation Administration (FAA) regulates aviation at regional, public, private, and military airports, such as the Rosamond Airport approximately 12 miles east of the project site. The FAA regulates objects affecting navigable airspace and structures taller than 200 feet according to Federal Aviation Regulation 14 CFR Part 77. The USDOT and the California Department of Transportation (Caltrans) also require the proponent to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration.

According to 14 CFR Part 77.5, notification allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing any adverse impacts on the safe and efficient use of navigable airspace. Any structure that would constitute a hazard to air navigation, as defined in 14 CFR Part 77, requires issuance of a permit from Caltrans's Aeronautics Program. The permit is not required if the FAA aeronautical study determines that the structure has no impact on air navigation.

As described in 14 CFR 77.9 (construction or alteration requiring notice), each sponsor who proposes any of the following construction or alteration scenarios shall notify the FAA in the form and manner as follows:

(a) Any construction or alteration that is more than 200 ft. above ground level (AGL) at its site.

(b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

(1) 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.

(2) 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.

(3) 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.

(c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.

(d) Any construction or alteration on any of the following airports and heliports:

(1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;

(2) A military airport under construction, or an airport under construction that will be available for public use;

(3) An airport operated by a Federal agency or the DOD.

(4) An airport or heliport with at least one FAA-approved instrument approach procedure.

(e) You do not need to file notice for construction or alteration of:

(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;

(2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;

(3) Any construction or alteration for which notice is required by any other FAA regulation.

(4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

Per 14 CFR 77.7, notification requirements include sending one executed form set of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area within which the construction or alteration would be located. The notice required must be submitted at least 45 days before the earlier of the following dates: (1) the date the proposed construction or alteration is to begin; or (2) the date an application for a construction permit is to be filed.

The U.S. Air Force implements FAA and U.S. Department of Defense policy and guidance regarding Special Use Airspace and Airspace for Special Use through various instructions, processes, and organizations. The Air Force Flight Standards Agency, AF/A30, Headquarters Air Force Encroachment Management Working Group, major command, and Unit Airspace Managers are responsible for identifying and evaluating projects that may adversely affect operations associated with military airfields, ranges, and airspace.

Occupational Safety and Health Administration

The mission of the Occupational Safety and Health Administration (OSHA) 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. OSHA staff establish and enforce protective standards and reach out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in 29 CFR 1910, which include the preparation of Health and Safety Plans (HASPs). These plans identify potential hazards associated with a proposed land use and may provide appropriate mitigation measures as required. 29 CFR Section 1910.120(e) requires all on-site employees—as well as their supervisors and site managers—to receive appropriate training before participating in hazardous waste operations that could expose them to hazardous substances, safety, or health hazards.

NFPA 855 — Standard for the Installation of Stationary Energy Storage Systems (National Consensus Standard)

NFPA 855 is a National Consensus Standard that establishes minimum safety requirements for the design, installation, commissioning, operation, maintenance, and decommissioning of stationary energy storage systems (ESS) across technologies (including lithium-ion). The standard addresses siting and separation distances; maximum allowable quantities; ventilation, gas detection, and explosion (deflagration) control; fire detection; vehicle impact protection; monitoring and emergency planning; signage/marking; and documentation such as a Hazard Mitigation Analysis (HMA) and Emergency Response Plan. NFPA 855 is adopted or incorporated by reference by many state and local codes—often through fire codes like the International Fire Code (IFC)/CFC—and compliance is typically required by Authority Having Jurisdictions, insurers, and financiers for ESS projects.

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 Federal Water Pollution Control Act; 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 WOTUS.

State

California Fire Code, Chapter 12

Chapter 12 of the 2025 CFC governs ESS applicable to the proposed BESS. In particular, Section 1207 (Electrical Energy Storage Systems) applies to stationary ESS with an aggregate nameplate capacity greater than 20 kilowatt-hours. Section 1207 addresses siting and protection features, such as vehicle-impact protection; location and separation/clearances; means of egress; security; seismic and structural design; gas detection and ventilation (where required); fire detection and suppression; and related operational safeguards. The 2025 CFC framework is listing-based (for example, UL 9540/9540A) and sets limits on unit capacity and aggregate capacities, along with installation conditions, to ensure safe construction, operation, inspection/maintenance, and decommissioning of ESS installations.

California Building Code, Section 322

Section 322 of the 2025 California Building Code (CBC) includes requirements for the storage of lithium-ion and lithium metal batteries, which may include the proposed energy storage facilities pending final design. Section 322 includes structural design requirements for ESS utilizing lithium-ion and lithium metal batteries, in addition to fire protection requirements for both indoor and outdoor storage systems. Section 322 also requires the development of a Fire Safety Plan.

California Building Code, Section 608

Section 608 of the CBC includes requirements for BESS greater than 20 kilowatt-hours, which includes the proposed energy storage facilities. Section 608 includes requirements for vehicle impact protection, location, spacing between batteries, egress, security, and fire suppression systems.

California Public Utilities Code Section 761.3

California Public Utilities Code Section 761.3 requires battery energy storage facilities to have an emergency response and emergency action plan covering the premises of the facility that is prepared in coordination with local emergency management agencies, unified program agencies, and local first responders.

California Public Utilities Commission General Order 95: Rules for Overhead Electric Line Construction

General Order (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 2020. 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 as follows:

- 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-kV lines.
- Rule 31.2, Inspection of Lines, requires frequent and thorough inspections of lines to ensure they are in good condition. It also requires that lines temporarily out of service be inspected and maintained in conditions that do not create hazards.

Power Line Hazard Reduction (PRC 4292)

Public Resources Code (PRC) 4292 requires a 10-foot clearance around any tree branches or ground vegetation at the base of power poles carrying more than 110 kV. The firebreak clearances required by PRC 4292 are applicable within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, transformer, or lightning arrester is attached and surrounding each dead-end or corner pole, unless such pole or tower is exempt from minimum clearance requirements by provisions of PRC 4296.

Power Line Clearance (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 nonexempt utility poles. The project structures would be exempt from the clearance requirements, with the exception of steel pole dead-end and H-Frame 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 (AGL): Remove flammable trash, debris, or other materials, grass, and herbaceous and brush vegetation. Remove all limbs and foliage of living trees up to a height of 8 feet.
- From 8 feet to the horizontal plane of highest point of the conductor attachment: Remove dead, diseased, or dying limbs and foliage from living sound trees and any dead, diseased, or dying trees in their entirety.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs (Health and Safety Code, Division 20, Chapter 6.95, Article 1). Hazardous materials are defined as unsafe raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste. Health concerns pertaining to the release of hazardous materials, however, are similar to those relating to hazardous waste.

A Hazardous Materials Business Plan (HMBP) must be submitted to the local Certified Unified Program Agency (for the project, the Kern County Public Health Services Department/Environmental Health Division) if the facility handles, uses, or stores a hazardous material or mixture containing a hazardous material that has a quantity equal to or greater than 55 gallons of liquid, 500 pounds of a solid substance, 200 cubic feet of compressed gas, a hazardous compressed gas in any amount, or hazardous waste in any amount. An HMBP must include the following:

- Inventory of hazardous materials at a facility
- A site map that contains north orientation; adjacent streets; access and exit points; evacuation staging areas; hazardous material handling and storage areas; emergency response equipment; and, if present, loading areas, internal roads, storm and sewer drains, and emergency shutoffs
- Emergency response plans and procedures in the event of a reportable release or threatened release of a hazardous material
- Training for all new employees and annual training for all employees in safety procedures in the event of a release or threatened release of a hazardous material

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 hazardous materials, including listed wastes from common manufacturing processes and specific industries, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the DTSC.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

Senate Bill 1082 (1993) created the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), which requires the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The Program Elements consolidated under the Unified Program are as follows:

- Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs (that is, Tiered Permitting)
- Aboveground Petroleum Storage Tank Program
- Hazardous Materials Release Response Plans and Inventory Program (that is, Hazardous Materials Disclosure or "Community-right-to-know")
- California Accidental Release Prevention Program (CalARP)
- Underground Storage Tank (UST) Program
- Uniform Fire Code (UFC) Plans and Inventory Requirements

The Unified Program is intended to provide relief to businesses in complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another local agency, a participating agency, which implements one or more Program Elements in coordination with the CUPA. The CUPA in Kern County (County) is the Environmental Health Division of the Kern County Public Services Department.

California Environmental Protection Agency

The California Environmental Protection Agency (Cal/EPA) was created in 1991 and unified California's environmental authority in a single cabinet-level agency and brought the California Air Resources Board (CARB), SWRCB, Regional Water Quality Control Board, California's Department of Resources Recycling and Recovery (known as CalRecycle), DTSC, Office of Environmental Health Hazard Assessment (OEHHA), and Department of Pesticide Regulation (DPR) under one agency. These agencies were placed within the Cal/EPA "umbrella" for the protection of human health and the environment and to ensure the coordinated deployment of State resources. Their mission is to restore, protect, and enhance the environment and to ensure public health, environmental quality, and economic vitality.

Department of Toxic Substances and Control

The 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 the state. The DTSC regulates hazardous waste primarily under the authority of the RCRA and 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.

U.S.C. 65962.5, commonly referred to as the Cortese List, includes the DTSC's hazardous waste Sites and the Site Cleanup List. The Cortese List also includes the Department of Health Services list 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 (Cal 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. Cal OES requires that basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and health risks) are made 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 HMBPs. These plans must include the following: (1) a hazardous material inventory in accordance with Sections 2729.2 to 2729.7; (2) emergency response plans and procedures in accordance with Section 2731; and (3) training program information in accordance with Section 2732. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in California. Each business will prepare an HMBP 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

California OSHA (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations.

Employers are required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337 to 340). The regulations specify requirements for employee training, the 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 the following:

- 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 to 1152.10. Inhalation hazards face similar, more restrictive rules and regulations: 13 CCR 6 (2.5), 1157 to 1157.8. Transportation of radioactive materials is restricted to specific safe routes.

Uniform Fire Code—Hazardous Materials Management Plan, Hazardous Materials Inventory Statement

The UFC prescribes regulations that are consistent with best practices to address fire and explosion hazards that can arise from the storage, handling, and use of hazardous substances, materials, and devices. The State Fire Marshal has adopted the UFC, with amendments, as the CFC. Local fire departments are required to adopt local fire codes that are no less stringent than the CFC.

According to UFC Section 8001.3.1, a permittee is required to store, use, or handle hazardous material exceeding specified quantities. A local fire chief may require permit applicants to prepare an Hazardous Materials Management Plan (Section 8001.3.2a) and Hazardous Materials Inventory Statement (Section 8001.3.3a).

California Accidental Release Prevention

The CalARP program (CCR Section 2745.1, 1997) is designed to minimize the risk of extremely hazardous substances that potentially cause immediate harm to the public and the environment by requiring business owners/operators that handle one or more regulated substances over the State and/or federal threshold to evaluate and determine the potential impacts of an accidental release. The CalARP program mirrors the federal Risk Management Program (RMP) under the federal Clean Air Act Section 112(r), except that it includes external events and seismic analysis to the requirements and includes facilities with lower inventories of materials.

Facilities subject to CalARP requirements must submit an RMP to the CUPA. The RMP must contain required elements, similar to those required under the federal RMP program, the specific requirements of which are determined by the CalARP "program level" that applies to the facility. For example, the RMP typically must include safety information, process hazard analysis, or hazard review, written operating procedures, training, maintenance, compliance audits, and incident investigations.

Emergency Services Act of 2009

Under the Emergency Services Act, the State developed an Emergency Response Plan to coordinate emergency services provided by federal, State, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an important segment of the plan administered by Cal OES, formerly the California Emergency Management Agency. Cal OES is responsible for coordinating the overall State agency response to major disasters in support of local government. The office is responsible for assuring the State's readiness to respond to and recover from all hazards (for example, natural, human-caused, war-caused emergencies, and disasters) and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts.

The Cal OES Hazardous Materials Section coordinates statewide implementation of hazardous materials accident prevention and emergency response programs for all types of hazardous materials incidents and threats.

The release of oil that in any way causes harm or threatens to cause harm to public health and safety, the environment, or property requires immediate notification to the Cal OES Warning Center. In addition, any discharge or threatened discharge of oil into State waters must be reported to Cal OES. No notification is needed if the release of oil is on land and is not discharged or threatening to discharge into State waters; does not cause harm or threaten to cause harm to the public health and safety, the environment, or property; and is under 42 gallons.

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to hazards and hazardous materials. The goals, policies, and implementation measures in the KCGP and the Willow Springs Specific Plan related to hazards and hazardous materials that are applicable to the project are provided below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for hazards and hazardous materials applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

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

1.1 Physical and Environmental Constraints

Goals

Goal 1: To strive to prevent loss of life, reduce personal injuries and property damage, and minimize economic and social diseconomies resulting from natural disaster by directing development to areas that are not hazardous.

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 2.6–2.9 and Map Code 2.10 [Nearby Waste Facility], and Map Code 2.11 [Burn Dump Hazard]) to support such development unless appropriate studies establish that such development will not result in an unmitigated significant impact.

Policy 2: In order to minimize risk to Kern County residents and their property, new development will not be permitted in hazard areas in the absence of implementing ordinances and programs. These ordinances will establish conditions, criteria, and standards for the approval of development in hazard areas.

Policy 3: Zoning and other land use controls will be used to regulate, and prohibit, if necessary, future development when physical hazards exist.

Policy 4: Kern County building, health, and fire codes and standards shall be strictly enforced to minimize the possibility of hazards relevant to certain physical constraints.

1.2 Public Facilities

Goals

Goal 10: Ensure landfill capacity for Kern County residents and industries.

Policy

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 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.

Measure N: Secure complete and accurate information on all hazardous wastes generated, handled, stored, treated, transported, and disposed of within or through Kern County.

Measure O: Reduce to the greatest degree possible the amount of waste to be disposed of by encouraging private industry to construct and manage a high-quality system of transfer stations, recycling facilities, treatment plants, and incinerators located near the generators of hazardous waste.

Measure R: 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 2. Circulation Element

2.5.2 Airport Land Use Compatibility Plan (ALUCP)

Goals

Goal 1: Plan for land uses that are compatible with public airport and military bases and mitigate encroachment issues.

Implementation Measures

Measure A: Review discretionary land use development applications within the airports influence area and the military base operating area as shown in the ALUCP for consistency.

2.5.4 Transportation of Hazardous Materials

Goals

Goal 1: Reduce risk to public health from transportation of hazardous materials.

Policies

Policy 1: The commercial transportation of hazardous material, identification and designation of appropriate shipping routes will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.

Policy 2: Kern County and affected cities should reduce use of County-maintained roads and city-maintained streets for transportation of hazardous materials.

Implementation Measures

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

Goals

Goal 4: The County shall encourage extra precautions be taken for the design of significant lifeline installations, such as highways, utilities, and petrochemical pipelines.

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.

4.6 Wildland and Urban Fire

Policies

Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.

Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.

Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.

Implementation Measures

Measure A: Require that all development comply with the requirements of the KCFD or other appropriate agency regarding access, fire flows, and fire protection facilities.

4.9 Hazardous Materials

Policies

Policy 2: Innovative technologies to manage hazardous waste streams generated in Kern County will be encouraged.

Implementation Measures

Measure A: Facilities used to manufacture, store, and use of hazardous materials shall comply with the UFC, with requirements for siting or design to prevent on-site hazards from affecting surrounding communities in the event of inundation.

Willow Springs Specific Plan

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). The plan was adopted in 1992 and amended in 2008 as part of the Land Use, Open Space, and Conservation Element of the KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for hazards and hazardous materials applicable to the project are provided below. The Willow Springs Specific Plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated in **Chapter 2**, *Introduction*, all goals, policies, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Land Use 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.

Policies

Policy 8: Require developers to clean up any identified hazardous waste sites prior to submittal of any land division or development project.

Kern County Multi-Hazard Mitigation Plan

The latest Kern County Multi-Hazard Mitigation Plan was most recently updated in 2020. The plan was developed by a Hazard Mitigation Planning Committee and identifies goals, objectives, and actions pertaining to mitigating impacts from identified natural hazards. The plan was approved by FEMA in 2021; the County is now eligible for grant funding intended for mitigation projects (Kern County 2021).

Kern County Fire Department Wildland Fire Management Plan

The KCFD Wildland Fire Management Plan documents the assessment of wildland fire situations throughout the SRAs within Kern County. The KCFD 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 Department Strategic Fire Plan

Last updated in 2025, the annual KCFD Unit Strategic Fire Plan assesses the countywide wildland fire situation. 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 areas of local fire risk. The plan is designed to be an assessment and planning tool only; it is the responsibility of those implementing projects to ensure that all environmental compliance and permitting processes are met, as necessary. 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. Utilizing computer-based data and geographic information systems provides a framework for comprehensive analysis of fire hazards, assets at risk, and the level of service to be included in the Wildland Fire Management Plan. Additionally, the KCFD Unit Strategic Fire Plan provides an annual report of unit accomplishments, which, in 2021, included completing a number of fuel reduction projects, establishing the wildland fire facility “Camp 8,” and establishing a seasonal Type 6 engine within Battalion 8’s service area (KCFD 2025).

Kern County Fire Code

The County has adopted, by reference, portions of the California Building Standards Code and the UFC, with modifications and amendments, in Chapter 17.32 of the Kern County Code of Building Regulations (Kern County Fire Code). The Kern County Fire Code prescribes the minimum requirements necessary to establish a reasonable level of fire safety to safeguard the life, property, and public welfare from hazards created by fire, hazardous materials release, and/or explosion. It includes provisions applicable to the installation, operation, maintenance, repair, retrofitting, testing, commissioning, and decommissioning of energy systems used for generating or storing energy, and requires that ESS regulated under the CFC Section 1207 comply with Chapter 17.32 of the Kern County Fire Code and NFPA 855.

To ensure that the requirements of the CFC and NFPA 855 have been met, the KCFD has developed an Energy Storage System Application Review Guide Sheet (KCFD n.d.). The document includes pertinent regulations and requirements for BESS and provides additional County-specific guidance where necessary.

The Kern County Fire Code defines a hazardous fire area as any land that is covered with grass, grain, brush, or forest and situated (for example, in an inaccessible location) so that a fire originating upon such

land would present an abnormally difficult job of suppression and would result in extensive, unusual damage through fire or the resulting erosion (Kern County 2022).

Kern County Public Health Services Department/Environmental Health Services Division

The Kern County Public Health Services Department/Environmental Health Services is the CUPA for the project area, which provides site inspections of hazardous materials programs (aboveground storage tanks, USTs, hazardous waste treatment, hazardous waste generators, hazardous materials management and response plans, and the CFC). 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

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 the 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 KCGP in 2004 as permitted by Health and Safety Code Section 25135.7(b) and, thus, must be consistent with all other aspects of the KCGP.

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, counties, and State and federal lands. The purpose of the Hazardous Waste Plan is to coordinate local implementation of a regional action to affect comprehensive hazardous waste management throughout Kern County. The action program focuses on the 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 permitted hazardous waste management facilities to ensure compliance with federal and State hazardous waste regulations.

Kern County Airport Land Use Compatibility Plan

The Kern County ALUCP establishes procedures and criteria by which the County can address compatibility issues when making planning decisions concerning airports and military aviation operations. The ALUCP maps airport influence areas as zones A, B1, B2, C, D, E1, and E2, ranging from the most restrictive Zone A to the least restrictive Zone E, and identifies policies and compatibility criteria within each of those zones.

Proposals for public or private land use developments that occur within defined airport influence areas are subject to compatibility review. The principal airport land use compatibility concerns addressed by the ALUCP are (1) exposure to aircraft noise; (2) land use safety with respect to both people and property on the ground and the occupants of the aircraft; (3) protection of airport airspace; and (4) general concerns

related to aircraft overflights. Neither the project site nor the 230-kV tie-lines are located within an Airport Influence Area, according to the ALUCP (Kern County 2012).

Kern County Zoning Ordinance

The project site parcels are zoned A (Exclusive Agriculture) and E (Estate). Additionally, many project parcels contain one or more combined districts: Floodplain Secondary (FPS), Wind Energy (WE), and Residential Suburban (RS). As part of the project, the project site would be rezoned to A, except for those portions that are already in the A Zone District. No zone changes are proposed for the combining zone districts (FP, FPS, WE, and RS). Exclusive Agriculture (A) restricts height to 150 feet for radio, television, communication, and microwave towers and contains no height restrictions for nonresidential structures, except in areas of protected military airspace. Section 19.08.160 of the County's Zoning Ordinance contains military review requirements as they relate to the height of proposed structures. As all project components would be 400 feet or less, the military review is not required for the project.

4.9.4 Impacts and Mitigation Measures

Methodology

The methodology for determining impacts relating to hazardous materials focuses on (1) potential impacts related to the routine transport, use, or disposal of hazardous materials and the potential release of hazardous materials into the environment; and (2) project components that could result in environmental contamination. The potential impacts related to hazards and hazardous materials as a result of the project have been evaluated using a variety of resources, including the *Phase I ESA* (**Appendix G**), *Preliminary Plume Study* (**Appendix J**), and publicly available information from CAL FIRE. As mentioned, other publicly available databases were consulted, including EnviroStor, from the DTSC, and GeoTracker, from the SWRCB.

The project was evaluated for adequate accessibility for emergency responders based on the project location, construction plans, and site plans, and any potential alterations to existing evacuation routes and plans.

The methodology for determining potential impacts relating to wildland fires focuses on the fire severity at the project site and the surrounding areas based on existing State and local maps and land characteristics.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the CEQA Guidelines, to determine if a project could potentially have a significant adverse effect related to hazards and hazardous materials.

A project would have a significant impact related to hazards and hazardous materials if it does any of the following:

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within a quarter-mile of an existing or proposed school;

d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;

e. For a project located within the adopted Kern County ALUCP, result in a safety hazard or excessive noise for people residing or working in the project area;

f. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan;

g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires;

h. Generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the project exceed the following qualitative threshold:

   The presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors:

   i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and

   ii. Are associated with design, layout, and management of project operations; and

   iii. Disseminate widely from the property; and

   iv. Cause detrimental effects on the public health or well-being of the majority of the surrounding population.

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

Vehicles and equipment used for construction would contain or require the short-term use of small amounts of potentially hazardous materials, including fuels, lubricating oils, solvents, herbicides, antifreeze, hydraulic fluid, and compressed gases. The use of vehicles and portable generators would require diesel or gasoline. Other construction activities associated with the construction of operation and maintenance buildings would require paints, adhesives, and solvents. Specialized chemicals that are potentially hazardous substances could also be used, depending on the type of construction activity. These could include compressed gases; fuels, oils, and lubricants; acids; bases; demulsifiers; bactericides; and solvents. Lithium-ion batteries for project operations would be required. Small quantities of hazardous waste, such as paint, solvents, cleaners, oil, oily rags, waste batteries, and spent welding materials, would be generated from construction activities.

Improper management, maintenance, storage, or disposal of hazardous materials could result in leaks or larger releases, which could contaminate soil or surface water bodies, depending on the location of the release. If an accidental release of hazardous materials occurs, a potentially significant impact could occur on the public or the environment. Although there are many federal, State, and local regulations for handling and storing hazardous materials in the workplace, **MM 4.9-1** would further ensure that hazardous materials are properly handled, stored, transported, and disposed of through the preparation of a Hazardous Materials Business Plan (HMBP). The HMBP would do the following:

- 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
- Establish public and agency notification procedures for spills and other emergencies, including fires

Hazardous materials transported to or from the project site would be required to comply with USDOT requirements. Furthermore, as discussed in **Section 4.17**, *Utilities and Service Systems*, **MM 4.17-1** would be implemented. This mitigation measure involves an on-site Waste Disposal and Recycling Coordinator to ensure that wastes requiring special disposal are handled in accordance with State and County regulations in effect at the time of disposal. As such, impacts related to the transport, use, or disposal of hazardous materials during project construction would be less than significant.

Operation

The project involves a BESS that would store up to 9,200 megawatt-hours of electricity, designed to supply the SCE Whirlwind Substation and support the regional electrical grid. The BESS would consist of individual lithium-ion phosphate or similar batteries housed in purpose-built, free-standing steel enclosures, each approximately 12 feet or less in height. Under normal operations, energy storage facilities do not store or generate hazardous materials in quantities that would pose a risk to the public. Accordingly, no reportable quantities of acutely or extremely hazardous materials would be transported, stored, or used at the site during routine operations.

Although the project would be operated remotely, a limited number of staff would be needed for various purposes. Approximately two full-time staff employees would be required on-site for initial site operations, increasing to as many as six full-time employees following the construction of all three BESS areas. On-site staff would be responsible for security, inspections, light maintenance, compliance management, and administrative functions, such as managing an inventory of spare parts and equipment. In addition, the project would require approximately four to six part-time employees for periodic maintenance activities. These activities may include installing augmentation batteries or equipment, repairing or replacing failed components, managing vegetation, and maintaining both stormwater management systems and site facilities (for example, operating and maintaining buildings and collector substation control houses).

Routine storage of hazardous materials is not anticipated; however, some equipment would require the use of hazardous materials to function. These materials may include mineral oil contained in transformers, pressurized gas and coolant in climate control equipment, and fuel for backup generators. Herbicides would also be used periodically for vegetation management and would be transported to and used at the project

site. The specific quantities of mineral oil, refrigerant, and other materials that could be potentially hazardous (such as compressed nitrogen or fire suppression agents) would not be known until equipment is selected during final design. All hazardous materials used at the site would be stored in designated areas and managed in accordance with the HMBP (**MM 4.9-1**). The disposal of such materials would adhere to the HMBP and **MM 4.17-1** (see **Section 4.17**, *Utilities and Service Systems*), which involves an on-site Waste Disposal and Recycling Coordinator to facilitate and ensure that wastes requiring special disposal are handled in accordance with State and County regulations that are in effect at the time of disposal.

The anticipated operational life of the project is approximately 35 years; however, battery storage capacity is expected to decrease over time with use. To maintain the required energy storage capacity, augmentation batteries and equipment would be installed periodically throughout the project's operational life. The degraded modules and racks would remain on-site, and additional batteries and associated equipment would be installed within the designated areas. Additionally, underperforming batteries may be identified during routine inspections; these would be considered hazardous and returned to the battery manufacturer for recycling or refurbishing. Batteries would remain sealed while on-site. Upon removal, they would be discharged (where safe to do so), packaged in accordance with USDOT requirements, and transported off-site to qualified recycling or disposal facilities in compliance with all applicable federal, State, and local hazardous material and hazardous waste requirements. Other equipment may also require periodic replacement and would be removed from the site and recycled or disposed of in accordance with applicable local and State regulations for waste management. Additionally, small quantities of hazardous waste, such as aerosol cans or used rags, may be generated from some maintenance activities and, if generated, would be managed in accordance with the HMBP (**MM 4.9-1**) and facilitated by the on-site Waste Disposal and Recycling Coordinator (**MM 4.17-1**).

The primary hazard associated with lithium-ion battery systems is the potential for battery fires resulting from thermal runaway. Thermal runaway occurs when heat is produced within a battery cell faster than it can cool and dissipate, leading to increased temperatures that can eventually result in a fire. Battery fires differ from typical structure or wildland fires in that they do not produce embers, which reduces the potential for the fire to spread to surrounding vegetation. Instead, fire spread risk is typically associated with thermal energy transfer to adjacent battery cells and equipment.

As described in **Chapter 3,** *Project Description*, the project would adhere to all applicable requirements of the KCFD, NFPA, National Electrical Code, and CFC governing the design, construction, installation, commissioning, operation, maintenance, inspection, and decommissioning of stationary ESS. The project would be designed to use outdoor cabinet-type BESS enclosures that have undergone large-scale fire testing to demonstrate that a fire within a single enclosure would not spread beyond that enclosure. These enclosures would be designed and equipped with UL-listed safety management equipment, including integrated fire protection and deflagration control systems to prevent or mitigate thermal runaway events. At a minimum, these safety features would include smoke and fire detection sensors; ground fault detection, alarm systems, and automatic shutdown systems, such as de-energizing electrical contacts and cooling fans. Battery enclosures would be spaced in accordance with NFPA 855 requirements and located at a minimum of 50 feet from project boundaries to minimize the potential for fire spreading to adjacent enclosures and areas.

Additionally, as discussed further in **Section 4.14**, *Public Services*, the project proponent would implement **MM 4.14-1**, which requires the preparation and submittal of a Fire Safety Plan to the KCFD for review and approval. The project would also be required to prepare an Emergency Response Plan pursuant to NFPS 855 for KCFD's approval to ensure prompt, safe, and effective response in the event of an emergency.

Initial and annual refresher training would be provided for on-site employees, and the project proponent would coordinate with the KCFD to facilitate site-specific training for their staff.

The project would comply with the requirements of the KCFD, NFPA, National Electrical Code, and CFC governing the design, construction, installation, commissioning, operation, maintenance, inspection, and decommissioning of stationary ESS, ensuring that a potentially significant impact on the public would not occur. Furthermore, the project would implement **MM 4.9-1, MM 4.14-1** (see **Section 4.14**, *Public Services*), and **MM 4.17-1** (see **Section 4.17**, *Utilities and Service Systems*). Therefore, impacts would be less than significant.

Further, implementation of the project would not result in the significant risk of EMFs associated with overhead power lines, as the project would be located directly north of the existing SCE Whirlwind Substation and would introduce minimal new infrastructure to interconnect with the substation. Therefore, impacts would be less than significant.

Decommissioning

If any portion of the project is decommissioned, project components would be removed from the site to facilitate conversion to other uses in accordance with the applicable land use regulations in effect at that time. Disturbed areas from the removal of the project components would be stabilized. The project site could then be converted to other uses in accordance with applicable land use regulations in effect at that time. A Decommissioning Plan would be developed as required by local codes and is anticipated to be part of the building permit review. The Decommissioning Plan would adhere to the requirements of the appropriate governing authorities as well as all applicable local, State, and federal requirements and BMPs.

Batteries would remain sealed while on the project site. As batteries are removed, they would be discharged (where safe to do so), packaged per USDOT requirements, hauled off-site, and recycled or disposed of at a qualified facility in accordance with all applicable federal, State, and local hazardous material and hazardous waste requirements. Fuel, hydraulic fluids, and oils would be transferred directly to a tanker truck from the respective tanks and vessels. All oils would be recycled at an appropriate facility. Storage tanks/vessels would be rinsed and transferred to trucks per standard BMPs. All material that cannot be salvaged would be appropriately disposed of at an authorized site in accordance with applicable regulations, including 22 CCR Division 4.5, which addresses hazardous waste, and Chapter 8.28 of the Kern County Municipal Code, which addresses solid waste. Compliance with a project-specific HMBP, as described in **MM 4.9-1**, would reduce the likelihood of a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and impacts would be less than significant.

SCE Whirlwind Substation Upgrades

The project includes two 220-kV overhead tie-lines to the SCE Whirlwind Substation on the adjacent parcels immediately south of the project site. SCE's work activities outside of the SCE Whirlwind Substation, including tie-line access clearing, installation of telecommunications lines, installation of tie-line support poles or towers, stringing of overhead conductors, and operation and maintenance of the tie-lines to the Point of Change of Ownership (POCO), would disturb all land within a 100-foot-wide corridor centered on each of the off-site tie-line alignments. Within the existing SCE Whirlwind Substation, each tie-line would require the installation of facilities for a new 220-kV switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3.0**, *Project Description*.

The hazardous materials used and hazardous waste generated during the construction and operation of the SCE Whirlwind Substation improvements and associated tie-lines are expected to be similar to those of the project; however, the substation would not include the use of lithium-ion batteries. As with the aforementioned activities, the relatively limited use and small quantities of hazardous materials during construction, along with the transport and disposal of such materials, would be controlled through compliance with applicable regulations. SCE's interconnection work would comply with all safety requirements, and the potential for hazardous materials impacts is minimal. SCE would implement standard BMPs during their work.

Installed infrastructure at the Whirlwind Substation, the tie-lines between the Whirlwind Substation and the POCO, and SCE control and metering equipment within the collector substations would be operated and maintained by SCE. The SCE interconnection facilities at the Whirlwind Substation and the SCE tie-lines would be unmanned. There could be occasional needs for repairs or maintenance if a component fails, becomes unreliable, or is unsafe for any reason. If needed, SCE maintenance or repair work would be within the Whirlwind Substation or SCE-owned system control facilities in the collector substations and could potentially include linework on the tie-line. If maintenance or repair work is required, it could entail work similar to the construction of those facilities using some of the same types of equipment. As indicated above, SCE's interconnection work would comply with all safety requirements and standard BMPs. Given that the SCE work would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.9-1, MM 4.14-1** (**Section 4.14**, *Public Services*), and **MM 4.17-1** (**Section 4.17**, *Utilities and Service Systems*) would be required.

MM 4.9-1: During the life of the project, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan (HMBP), as applicable, pursuant to Article 1 and Article 2 of California Health and Safety Code 6.95 and in accordance with Kern County Ordinance Code 8.04.030, by submitting all the required information to the California Environmental Reporting System (CERS) for review and acceptance by the Kern County Environmental Health Services Division/Hazardous Materials Section. The HMBP shall:

a. Delineate hazardous material and hazardous waste storage areas.

b. Describe proper handling, storage, transport, and disposal techniques.

c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill.

d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction and operation.

e. Establish public and agency notification procedures for spills and other emergencies, including fires.

f. Include procedures to avoid or minimize dust from existing residual pesticides and herbicides that may be present on the site.

g. The project proponent shall ensure that all contractors working on the project are familiar with the facility's HMBP, as well as ensure that one copy is available at the

project site at all times. In addition, a copy of the accepted HMBP from CERS shall be submitted to the Kern County Planning and Natural Resources Department for inclusion in the project's permanent record.

Level of Significance after Mitigation

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 Phase I ESA prepared for the project (**Appendix G**), the project site is not located within a known oil production field, nor does it have any known active or abandoned wells. As a result, construction activities are unlikely to expose employees or construction workers to the dangers associated with constructing a facility near an active oil well. Additionally, no RECs were identified on-site or in the immediate vicinity of the project site.

Construction activities would utilize equipment like trucks and excavators that would use potentially hazardous materials, such as fuels and lubricants. Additionally, potentially hazardous materials, such as glues, solvents, paints, thinners, or other chemicals, would be used. The use of such materials could result in minor spills; however, the implementation of **MM 4.9-1** would require an HMBP plan pursuant to Article 1 and Article 2 of the California Health and Safety Code, which requires management of hazardous materials to avoid a threat to public safety if chemicals are accidentally released. **MM 4.9-1** would require the project proponent to describe methods to be used in order to avoid spills and minimize impacts in the event of a spill; the measure would also require public and agency notification procedures for spills and other emergencies. Additionally, implementation of **MM 4.10-1** (see **Section 4.10**, *Hydrology and Water Quality)* would require BMPs to be implemented as outlined in the NPDES-mandated SWPPP. Relevant BMPs would include designated fueling and maintenance areas that are supplied with temporary spill containment equipment, such as absorbent booms and pads, and petroleum waste disposal containers.

Removing vegetation during construction may require the use of herbicides. The application of herbicides has potential for drift, which creates the potential for unintended off-site applications. **MM 4.9-2** requires the construction contractor to apply herbicides pursuant to all State and local regulations and prohibits application when wind velocity exceeds 10 miles per hour to avoid drift. With the implementation of **MM 4.9-1, MM 4.9-2,** and **MM 4.10-1,** the upset and accident conditions involving the release of hazardous materials into the environment would be reduced to a less-than-significant level.

Operation

Limited amounts of hazardous materials would be stored or used on-site during operations. These materials are commonly found on similar sites and operations and generally include diesel, gasoline, and motor oil for vehicles. Each enclosed transformer at the on-site collector substations would include mineral oil, but secondary containment would be provided in accordance with applicable federal, State, and local laws and regulations. The mineral oil in each transformer does not typically require replacement, and mineral oil disposal would be in accordance with all applicable federal, State, and local laws and regulations. Appropriate spill containment and cleanup kits would be maintained during the operation of the project.

As previously discussed, energy storage facilities do not store or generate hazardous materials in quantities that would pose a risk to off-site receptors under normal operations. However, the primary hazard associated with lithium-ion batteries is battery fires. The project would adhere to all applicable KCFD, NFPA, National Electrical Code, and CFC requirements for design, construction, installation, commissioning, operation, maintenance, inspection, and decommissioning of stationary ESS. The project would be designed in accordance with applicable NFPA standards, including the use of outdoor cabinet-type BESS enclosures that have undergone large-scale fire testing to demonstrate that a fire within a cabinet does not propagate beyond the enclosure. The outdoor cabinet-type enclosures would be designed and equipped with UL-listed safety management equipment, integrated fire protection, and deflagration control systems designed to prevent thermal runaway and manage or mitigate associated risks if it occurs. At a minimum, this would include smoke/fire detection sensors; ground fault detection, alarms, and systems for automatic shutdown of cooling fans and opening of electrical contacts in the battery system. Battery enclosures would be located a minimum of 50 feet from the project's site boundaries and would be spaced in accordance with NFPA 855 requirements designed to minimize the risk of a fire spreading to adjacent enclosures.

While fires at BESS are rare, environmental monitoring that has occurred during and after outdoor cabinet-type BESS fires has shown that there are no impacts to the surrounding environment. For example, following an outdoor cabinet-type BESS fire at a San Diego Gas & Electric facility in Escondido, San Diego on September 5, 2024, County Hazmat conducted air monitoring over a 4-hour period during the incident at 11 different locations. The monitoring found that only normal products of combustion of a structure fire were detected and at levels well below exposure thresholds set by the National Institute for Occupational Safety and Health (NIOSH) and OSHA. A third-party contractor conducted additional air quality monitoring at 18 different locations during the incident—and for an additional 12 hours after the fire was extinguished—and concluded that at no time during the incident did the levels of oxygen deviate from 20.9 percent, which is considered a normal atmospheric level. Any decrease in the percentage of oxygen would indicate that there was some unknown gas in the atmosphere that was not able to be detected by monitoring equipment. No such deviation was detected (SDG&E 2024a).

The project includes firewater tanks, consistent with KCFD requirements for other similar projects. Due to the project electing to only use cabinet-type battery enclosures, the use of the fire water tanks is only intended to cool adjacent uninvolved enclosures if needed during a fire and not directly used on a battery fire, thus eliminating any water runoff concerns, both due to the limited water quantity and indirect application. By way of the same incident example, the fire water runoff used during the San Diego Gas & Electric fire in Escondido was sampled and found to have no levels of contamination above safe drinking water levels. Eurofins Calscience, an accredited environmental testing lab, in collaboration with San Diego County Wastewater Division, sampled for 17 different contaminants; six samples had detectable concentrations, but all were below safe drinking water levels. The remaining 11 samples did not detect any levels of the sampled contaminants. The San Diego County Wastewater Division at Hale Avenue Resource Recovery Facility confirmed that there were no concerns with this water entering the environment (SDG&E 2024b). Similarly, environmental monitoring and sampling during and after three BESS fires in New York, each site using different battery chemistries and configurations, reported "no harmful levels of toxins detected, and no long-term off-site impacts involving any migration of contaminants associated with the fires." Agencies involved included the Division of Homeland Security and Emergency Services, Office of Fire Prevention and Control, New York State Energy Research and Development Authority, New York State Department of Environmental Conservation, Department of Public Service, the Department of State, and the State Department of Health (NYSIAFSWG 2023).

NFPA 855 and the CFC also require the preparation of HMA for review and approval from the Authority Having Jurisdiction. The HMA evaluates site and equipment-specific risks, credible failure modes, and measures used to detect, prevent, and mitigate those hazards. The HMA would also include dispersion modeling (a "plume study") of unignited flammable or toxic gases that requires demonstration that reasonably foreseeable releases are not expected to result in off-site concentrations above applicable health standards at the property line. As required by NFPA 855 and the CFC, a Preliminary Plume Study (**Appendix J**) was prepared for the project to identify and quantify potential risks associated with toxic gases produced by a BESS during thermal failures. The modeled scenarios considered a non-fire scenario in which battery vent gas is released, a small fire scenario, and a large fire scenario. The fire scenarios considered low and high wind conditions based on nearby meteorological data. Gas concentrations of interest were those at 2 meters (6.6 feet) AGL, representing the exposure experienced by individuals standing on level ground near an incident.

Under typical, lower wind conditions, heat from a fire causes gases to rise and disperse, resulting in relatively low concentrations at ground level. However, higher winds can reduce this effect and keep greater concentrations of gas close to the ground. Below is a summary of the modeling results under four different scenarios:

- **Large Fire, High Winds:** Modeling results show that fires combined with strong winds can result in higher concentrations of combustion products 2 meters (6.6 feet) AGL. Scenarios with both fire and high winds also yielded the highest gas concentrations near ground level at the greatest distances. Gases do not rise immediately due to high winds, but they do rise gradually. Additionally, gases begin mixing as they move away from the enclosure.
- **Large Fire, Low Winds:** Scenarios with a large fire at low winds show that gases rise immediately and stay elevated for long distances.
- **Small Fire, High Winds**: Gases stay near ground level for some distance before mixing occurs. Consequently, the combustion product concentration at 2 meters (6.6 feet) from ground level far from the enclosure is somewhat greater under high wind conditions for the small fire, even though the overall combustion product concentration is greater for the large fire.
- **Small Fire, Low Winds:** Gases for a small fire also rise, but to a lesser degree than for a large fire scenario.

The modeled average carbon monoxide concentrations may be IDLH (exceed the IDLH level) up to 16 feet, cause life-threatening health effects (exceed the AEGL-3 level) up to 26 feet, and cause serious health effects (exceed the AEGL-2 level) up to approximately 131 feet from the unit in a large fire scenario with high winds. However, wind speeds at or above 31 miles per hour occur approximately 1 percent of the time at the project site, and no toxicity consequences were present for the modeled scenarios with low wind conditions.

As described in **Chapter 3**, *Project Description*, all battery enclosures would be located at least 50 feet from the property boundaries. Given this setback, the modeling results, and the fact that the nearest residences are approximately 0.13 and 0.23 miles away, toxic levels of carbon monoxide are not expected to reach populated areas if a single battery unit were to fail. **Figure 4.9-3** below shows the maximum modeled distances for critical concentrations in all possible wind conditions. However, considering wind would only typically come from one direction at a time, the plume resulting from a BESS failure would travel predominantly in one direction. Therefore, **Figure 4.9-4** below shows a modeled plume from an enclosure on the northeast corner of the project site with a high wind coming from the west.

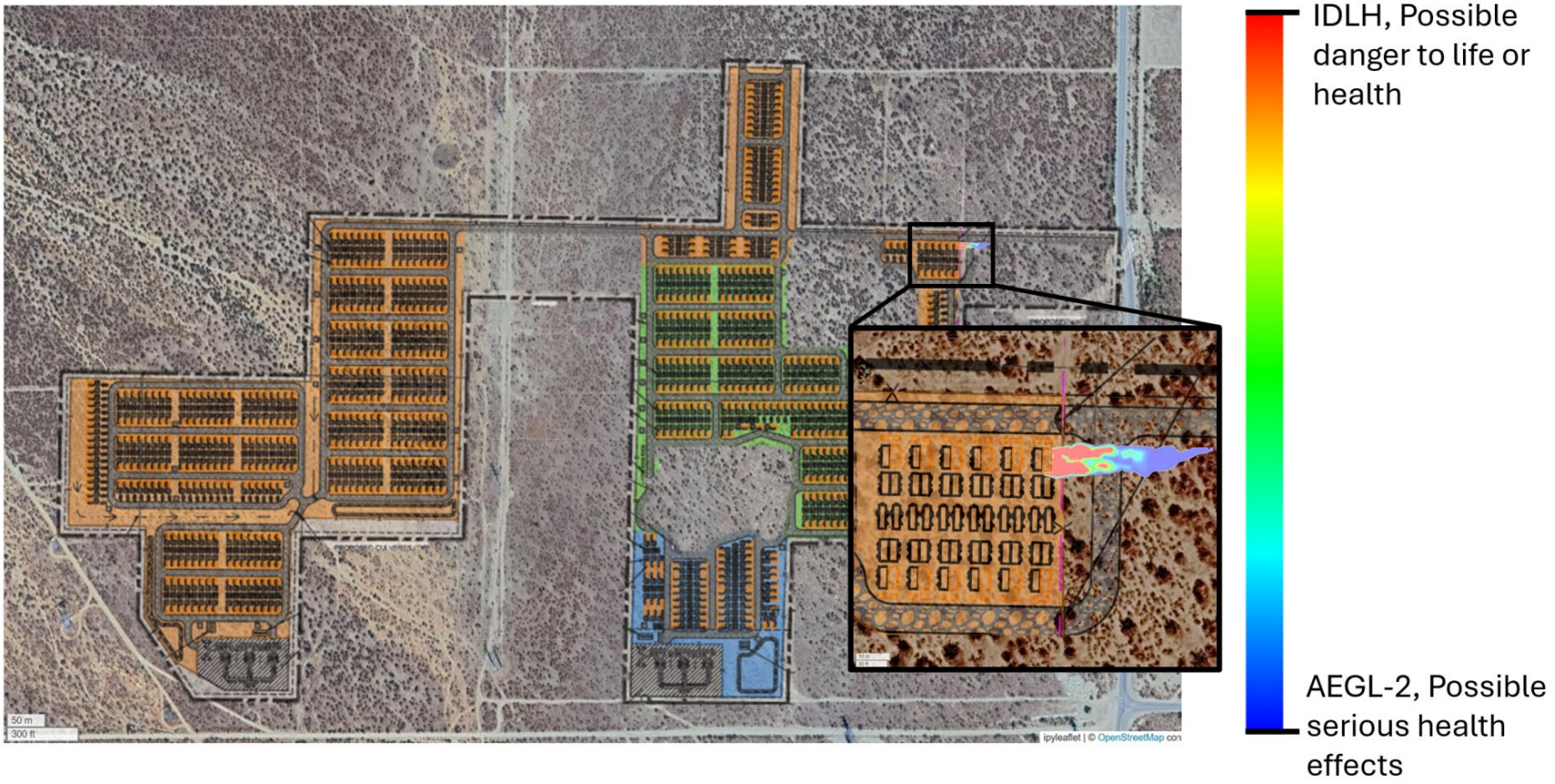
Figure 4.9-3: Maximum Distances for Toxicity Consequences with 99th Percentile 31 mph Winds



Key: IDHL = immediately dangerous to life and health; AEGL = acute exposure guideline levels; BESS = battery energy storage system

Source: Preliminary Plume Study (**Appendix J**).

Figure 4.9-4: Modeled Plume Above AEGL-2 with Large Fire and High Winds from the West



Key: IDHL = immediately dangerous to life and health; AEGL = acute exposure guideline levels; BESS = battery energy storage system
Source: Preliminary Plume Study (**Appendix J**).

The Preliminary Plume Study prepared for the project assumes that a single battery unit would fail or burn at one time, with gas release scenarios consistent with UL 9540A testing. Certain conditions could result in more severe outcomes than those predicted by the model, including thermal runaway propagation exceeding the measured release rates, involvement of multiple units, or atmospheric inversion conditions that could temporarily trap pollutants near the ground. However, as previously discussed, the project would be constructed in accordance with the CFC and applicable NFPA standards, including NFPA 855, which establishes stringent design requirements for stationary electrical ESS. These standards require rigorous large-scale fire testing to demonstrate that the battery enclosures do not pose a fire risk to adjacent structures, even without using fire suppression. To achieve these results, ESS typically employ various types of passive fire protection measures, such as thermal runaway mitigation systems, adequate equipment spacing and setbacks, vegetation management or non-combustible ground cover, and fire-resistant or non-combustible construction materials. Compliance with all applicable standards would be demonstrated by including the modeling and testing results, analyses, and drawings in the building permit application to KCFD for review and approval.

Additionally, as discussed further in **Section 4.14**, *Public Services*, the project proponent would implement **MM 4.14-1**, which requires the preparation and submittal of a Fire Safety Plan to the KCFD for review and approval. The project would also be required to prepare an Emergency Response Plan pursuant to NFPS 855 for KCFD's approval to ensure prompt, safe, and effective response in the event of an emergency. Initial and annual refresher training would be provided for on-site employees, and the project proponent would coordinate with the KCFD to facilitate site-specific training for their staff.

Removal and/or maintenance of vegetation may require herbicide use during operation. If not handled properly, these products could create a hazard to the public, affecting maintenance personnel and nearby residents. **MM 4.9-2** requires the construction contractor to apply herbicides pursuant to all State and local regulations and prohibits application when wind velocity exceeds 10 miles per hour to avoid drift.

Based on the analysis provided, the project would comply with hazardous substance regulations and would not create or expose the public to significant hazards through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The project would comply with all applicable regulations and standards, and would implement **MM 4.9-1, MM 4.9-2,** and **MM 4.14-1**. Therefore, impacts would be less than significant.

Decommissioning

The decommissioning and disposal process is described above under Impact 4.9-1. The battery manufacturer would provide recycling services, with minimal disposal occurring in landfills, in compliance with all applicable laws. All material that cannot be salvaged would be appropriately disposed of at an authorized site in accordance with applicable regulations, including 22 CCR Division 4.5, which addresses hazardous waste, and Chapter 8.28 of the Kern County Municipal Code, which addresses solid waste. Compliance with **MM 4.9-1** and **MM 4.9-2** would reduce the likelihood of a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment. Therefore, impacts would be less than significant.

SCE Whirlwind Substation Upgrades

Construction of the SCE Whirlwind Substation upgrades and tie-lines could result in the accidental release of materials, such as cleaning fluids and petroleum products, including lubricants, fuels, and solvents. Construction and operation of the SCE Whirlwind Substation facilities also may involve the use of herbicides, which have potential for drift, potentially creating unintended application of herbicides off-site.

However, these off-site improvements are small parts of the overall project. SCE would comply with any existing adopted BMPs and all applicable State and federal laws and regulations during construction, including those regulations that relate to hazardous materials. Therefore, the SCE work 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, and impacts would be less than significant..

Mitigation Measures

The implementation of **MM 4.9-1, MM 4.9-2, MM 4.10-1** (see **Section 4.10,** *Hydrology and Water Quality)*, and **MM 4.4-14** (see **Section 4.14**, *Public Services)* would be required.

MM 4.9-2: The project proponent/operator shall continuously comply with the following:

a. The construction contractor or project personnel shall use herbicides that are approved for use in California and are appropriate for application adjacent to natural vegetation areas (i.e., non-agricultural use). Personnel applying herbicides shall have all appropriate State and local herbicide applicator licenses and comply with all State and local regulations regarding herbicide use.

b. Herbicides shall be mixed and applied in conformance with the manufacturer's directions.

c. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical-resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife.

d. Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water.

e. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated.

f. A written record of all on-site herbicide applications, including dates and amounts, shall be furnished annually to the Kern County Planning and Natural Resources Department.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.9-3: The project would emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.

The project is located in a low-population-density area, with a few scattered residences in the immediate vicinity. No existing or proposed schools are located within 0.25 miles of the project site. Tropico Middle School is the nearest school, located approximately 12 miles east of the project site. Therefore, no impact

related to hazardous emissions or handling hazardous materials within a 0.25-mile radius of a school would occur.

SCE Whirlwind Substation Upgrades

Tropico Middle School is the nearest school, located approximately 12 miles east of the SCE Whirlwind Substation. No impact would occur.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

No impact would occur.

Impact 4.9-4: The project would be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.

As previously discussed, none of the project parcels are identified in any of the California hazardous materials databases. Searches were completed for the project parcels in the following hazardous materials lists: Cal/EPA's Cortese List, including the California DTSC's EnviroStor database of hazardous substances release sites; and GeoTracker, the California database of leaking underground storage tanks. Based on the records search, review of historical use, and site visit, the Phase I ESA prepared for the project revealed no evidence of RECs, controlled RECs, historical RECs, or de minimis conditions in connection with the project site. Therefore, no impact would occur.

SCE Whirlwind Substation Upgrades

According to the review of regulatory records, the SCE Whirlwind Substation is listed in several environmental compliance-related databases associated with hazardous materials management, stormwater, tank management, and hazardous waste generation. However, no significant environmental compliance deficiencies are listed, and it is not listed in the chemical spill or contamination-related database, including California DTSC's EnviroStor database. Furthermore, based on the Phase I ESA prepared for the project, the substation is not considered a REC. Therefore, no impact would occur.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

No impact would occur.

Impact 4.9-5: The project would result in a safety hazard or excessive noise for people residing or working in the project area, for a project located within the vicinity of a private airstrip.

The nearest airport to the project site is the Rosamond Airport, located over 12 miles to the east. No portion of the project site is located within an area governed by the Kern County ALUCP (Kern County 2012). The

project does not involve the development of housing that could place residents within an area associated with a safety hazard or excessive noise regarding an airport's operations.

As stated previously in **Section 4.9.2**, *Environmental Setting*, the project site is located within the military flyover area and the Joint Service Restricted R-2508 Complex of the Edwards Air Force Base, located approximately 20 miles west. Per Kern County Zoning Ordinance Section 19.08.160, Figure 19.08.160, military review is required within the yellow delineated areas for all structures over 500 feet. The project overlaps with the military review area for all structures over 500 feet; however, none of the project structures are expected to exceed 200 feet in height. Any structure exceeding 200 feet would be subject to FAA review under Federal Aviation Regulation Part 77 and require issuance of a Determination of No Hazard to Air Navigation. Therefore, impacts related to a safety hazard or excessive noise would be less than significant.

SCE Whirlwind Substation Upgrades

The nearest airport to the SCE Whirlwind Substation is the Rosamond Airport, located approximately 12 miles to the east. As previously discussed, the FAA's Pre-Screening Tool was used to confirm that the tallest proposed structures (tie-line structures at 200 feet) would not require notice to the FAA under Title 14 of the Code of Federal Regulations (14 CFR) Part 77 (FAA 2026). The Whirlwind Substation is not located within any safety or noise contour zones for the Rosamond Airport or any other airport, nor is it within a designated airport land use plan area. Any structure exceeding 200 feet would be subject to FAA review under Federal Aviation Regulation Part 77. Therefore, impacts related to a safety hazard or excessive noise would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.9-6: The project would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

The project site is located in a rural, sparsely developed area with a limited population. The project site is not located along an identified emergency evacuation route and is not identified in any adopted emergency evacuation plan, including the County's Multi-Jurisdiction Hazard Mitigation Plan.

As discussed in **Section 4.15**, *Traffic and Transportation*, it is not expected that project-related traffic would cause a significant increase in congestion or the level of service at intersections nearby. Nevertheless, given the additional construction workers and large equipment required for project construction, the project could physically interfere with emergency response plans, resulting in a potentially significant impact. **MM 4.15-1** requires the development of a Construction Traffic Control Plan for review and approval from the Kern County Public Works Department and Caltrans. This plan would be prepared in accordance with

both the Caltrans Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and would address the following topics:

- Timing of deliveries
- Transportation routes
- Temporary signage along access routes
- Establishing procedures for coordinating with local emergency response agencies
- Maintaining access to adjacent properties
- Methods for minimizing construction traffic during the AM and PM peak hours

Implementation of the construction Traffic Control Plan would ensure that the potential for project-related construction traffic to interfere with vehicular circulation or emergency access along local roadways would be minimized, including during any times of emergency evacuation. Similarly, while project decommissioning would increase the number of people on the project site, the increase would be temporary and negligible and, thus, would not substantially impair an adopted emergency response plan or emergency evacuation plan. The project would not require closures of public roads, which could inhibit access by emergency vehicles.

While the project would be operated remotely, some staff would be needed on-site during routine operations. It is anticipated that approximately two full-time employees would be needed for initial site operations. The site staffing needs could increase to approximately six full-time employees for routine operations following completion of construction in all three BESS areas. In addition, the project may require approximately four to six part-time employees for periodic maintenance needs. While the project would require on-site employees, it is not expected that the minimal number of employees would generate a substantial increase in traffic or interfere with vehicle circulation.

The project would comply with applicable Kern County Fire Code and CBC requirements, including gate access, on-site road design, fire hydrants, safety equipment, and other fire safety requirements. The project would also comply with Public Utilities Code Section 761.3 and NFPA 855, which requires the preparation of an Emergency Response Plan for KCFD's approval to ensure prompt, safe, and effective response in the event of an emergency. NFPA 855 requires initial and annual refresher training to be provided for on-site employees. The project proponents would coordinate with the KCFD to facilitate site-specific training for their staff. Fire suppression equipment specific to construction would be maintained on-site. Additionally, project construction and maintenance/operations would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials.

With the implementation of **MM 4.15-1**, the project would not conflict with the implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Therefore, impacts would be less than significant.

SCE Whirlwind Substation Upgrades

Construction activities associated with upgrades to the SCE Whirlwind Substation would be limited and would not impede access or result in the impairment of an adopted emergency response plan. Additionally, the SCE Whirlwind Substation is not located along an identified emergency evacuation route and is not identified in an adopted emergency evacuation plan. Therefore, upgrades to the Whirlwind Substation

would not conflict with the implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.15-1** (see **Section 4.15,** *Traffic and Transportation*) would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.9-7: The project would expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

As discussed in **Section 4.18**, *Wildfire*, the project site is not classified as being within a Very High FHSZ or an SRA. Nonetheless, as the project proposes a BESS that would use lithium-ion-based technologies, the potential for battery fires exists.

Construction and Decommissioning

Site preparation includes grubbing, grading, and clearing of vegetation that could interfere with project construction. While the initial removal of vegetation reduces fuel build-up without implementing a proper revegetation plan, naturally occurring vegetation regrowth could serve as fuel for ignition, leading to a potentially significant impact. Construction and decommissioning activities would also temporarily introduce ignition sources from vehicles, heavy equipment, and spark- or heat-generating tools. Therefore, the project would implement **MM 4.1-4** (see **Section 4.1**, *Aesthetics*), requiring the project proponent/operator to submit a Landscape Revegetation and Restoration Plan for the project site to the Kern County Planning and Natural Resources Department for review and approval.

Project construction and decommissioning would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, cleanup of spills of flammable materials, and vegetation management. While the project would increase the potential sources of fire hazards, all construction and decommissioning activities would comply with applicable wildfire management plans and policies established by CAL FIRE and the KCFD, as well as comply with the NFPA 70E standards for hot electrical work. Furthermore, **MM 4.14-1**, as described in **Section 4.14**, *Public Services*, requires the development and implementation of a Fire Safety Plan for use during construction, operation, and decommissioning of the project. The Fire Safety Plan would include emergency fire precautions for vehicles and equipment, fire rules, and training to ensure that project personnel are equipped to handle fire threats. The project's construction and decommissioning phases would be temporary, and with the implementation of **MM 4.1-4** and **MM 4.14-1**, potential impacts related to wildland fires would be less than significant.

Operation

The project proposes a BESS that would use lithium-ion-based technologies that have the potential for battery fires. As previously discussed, the project would be constructed in accordance with the CFC and applicable NFPA standards, which have detailed design requirements for stationary electrical ESS. The NFPA 855 requires rigorous large-scale fire testing, which involves systems passing performance-based criteria demonstrating that, in an unlikely event, a battery fire occurs, the fire would be contained to a single battery enclosure, and that adjacent enclosures would not be affected as a result of thermal runaway, even

without the use of fire suppression. To achieve these results, BESS typically employs various types of features such as thermal runaway mitigation systems, adequate equipment spacing and setbacks, ventilation, early smoke detection, alarms, remote monitoring, vegetation management or non-combustible ground cover, and fire-resistant or non-combustible construction materials. Compliance with these standards would be demonstrated by including testing results, listing, plans, analysis, and drawings as part of the building permit application to KCFD for review and approval.

Project operation and maintenance could introduce ignition sources, such as vehicles and equipment used for various maintenance activities. Project vehicles would travel on roads that have been cleared of vegetation, making vegetation-related fires unlikely on the site. Although equipment for project components could require electrical wiring, it would be installed in accordance with applicable standards and regulations.

The project would include an Incident Command Center consisting of a dedicated fire water and fire alarm annunciator panel located near 170th Street West and a minimum of 300 feet from the closest battery containers. Two optional locations are proposed in the project site plan, and the final location would be determined in consultation with KCFD. In the event of a fire, the fire alarm annunciator panel would provide first responders with up-to-date optics of what is occurring with the BESS areas. KCFD would use this location to stage incoming emergency response equipment and for a multiagency command post at a safe distance, where full personal protective equipment would not be required. An aboveground 10,000 to 30,000-gallon water tank dedicated for potential fires would be adjacent to the incident command post near 170th Street West. While a dedicated water supply for fire protection would meet KCFD requirements, the final locations and volumes would be determined based on consultation with KCFD. All required fire water tanks would be designed in accordance with KCFD requirements, including a 4-inch diameter National Standard Male connection for fire department use, a water level indicator, and ready access. Should a battery fire occur, firefighters are trained to allow the single enclosure to consume itself while observing the areas around it and utilizing fire water for cooling adjacent exposures, if needed. Any external wildland or brush fires impacting the battery facility are not a concern due to strict vegetation management of the site, setbacks, spacing, and non-combustible construction as described herein.

Additionally, as discussed further in **Section 4.14**, *Public Services*, of this Draft EIR, the project proponent would implement **MM 4.14-1**, which would require the preparation and submittal of a Fire Safety Plan to the KCFD for review and approval. The project would also be required to prepare an Emergency Response Plan pursuant to Public Utilities Code Section 761.3 and NFPS 855 for KCFD approval to ensure prompt, safe, and effective response in the event of an emergency. Initial and annual refresher training would be provided for on-site employees, and the project proponent would coordinate with the KCFD to facilitate site-specific training for their staff. Compliance with applicable federal, State, and local standards and the implementation of **MM 4.1-1** and **MM 4.14-1** would reduce the risk of exacerbated wildland fires, and impacts would be less than significant.

SCE Whirlwind Substation Upgrades

The SCE Whirlwind Substation is not located within a high FHSZ. Portions of the tie-line corridors and Whirlwind Substation fall within the LRA and Moderate FHSZ, while other areas are within the LRA but not classified as having an FHSZ. Equipment to be installed as part of the Whirlwind Substation upgrades would include electrical wiring, which may be a potential ignition source that could cause a wildland fire. Risks of fire would be reduced by installing equipment in accordance with applicable standards and regulations, and facility maintenance activities that would include the inspection, replacement, and repair of wiring and other electrical equipment. SCE would comply with any existing adopted BMPs and all

applicable State and federal laws and regulations during construction, including those regulations that relate to wildland fire. Therefore, impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.14-1** (see **Section 4.14**, *Public Services*) would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.9-8: The project would generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the proposed project exceed the following qualitative threshold: the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the proposed project is significant when the applicable enforcement agency determines that any of the vectors:

- **i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; or**
- **ii. Are associated with design, layout, and management of proposed project operations; or**
- **iii. Disseminate widely from the property; or**
- **iv. Cause detrimental effects on the public health or well-being of the majority of the surrounding population.**

Project-related infrastructure is not expected to create conditions that provide habitats for vectors or pests such as mosquitoes, flies, cockroaches, or rodents. Waste generated from construction and decommissioning would be short-term and would consist primarily of reusable or recyclable packaging and shipping material, such as wood pallets and crates, cardboard, and plastic. Materials brought to the project site would be used to construct facilities, and minimal residual materials are expected. Common construction waste may include paper, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal, concrete, empty nonhazardous containers, and vegetation wastes. The project operation would generate minimal amounts of waste from office and maintenance activities, such as small quantities of household-type waste from maintenance crews. Small quantities of packaging and shipping materials, such as wood, cardboard, paper, and plastic, would be generated from occasional replacement or maintenance of equipment.

Generated waste could result in trash piles or open containers that could provide breeding areas for flies or rodents. These potential disease vectors could pose a hazard to personnel or the public and result in a potentially significant impact. However, implementation of **MM 4.1-1** (see **Section 4.1**, *Aesthetics*) would reduce the potential to create conditions that provide habitats to vectors or pests by implementing a Maintenance, Trash Abatement, and Pest Management Program that includes protocols for debris clearing and trash removal. Furthermore, **MM 4.17-1** (see **Section 4.17**, *Utilities and Service Systems*) requires that

an on-site waste disposal and recycling coordinator facilitate the recycling of all construction and decommissioning waste to the greatest extent feasible by coordinating with contractors, local waste haulers, other facilities, and the Kern County Public Works Department – Solid Waste Division. The coordinator would also ensure the separation and proper disposal of recyclable materials and solid waste. Implementing these mitigation measures would ensure proper management of these potential harborage areas and reduce the potential to create conditions that provide habitats to vectors or pests. Therefore, impacts would be less than significant.

SCE Whirlwind Substation Upgrades

During the construction and operation of the SCE work, workers may generate small quantities of solid waste (e.g., trash, food containers) that would be stored in enclosed containers, then transported to and disposed of at approved disposal facilities. The SCE work would not create or exacerbate the potential hazards associated with generation of vectors in the area, such as mosquitoes, flies, cockroaches, or rodents. SCE would comply with all applicable State and federal laws during construction and operation, including those regulations that relate to vector control. Therefore, impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.1-1** (see **Section 4.1**, *Aesthetics*) and **MM 4.17-1** (see **Section 4.17**, *Utilities and Service Systems*) would be required.

Level of Significance

Impacts would be less than significant.

4.9.5 Cumulative Setting, Impacts, and Mitigation Measures

As described in **Table 3-4**, *Cumulative Projects List*, in **Chapter 3**, *Project Description*, there are five cumulative projects proposed within the cumulative impact study area. The geographic scope of impacts associated with hazardous materials generally encompasses the project site and a 0.25-mile-radius area around the site. A 0.25-mile-radius area allows for a conservative cumulative analysis that ensures that all potential cumulative impacts are assessed. Similar to other potential impacts, such as those related to geology and soils, risks related to hazards and hazardous materials are typically localized in nature since they tend to be related to on-site existing hazardous conditions and/or hazards caused by 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 on an existing or proposed school, as discussed above.

Impacts associated with the handling, use, storage, or disposal of hazardous materials would be project-specific and would not cumulatively contribute to impacts from other projects. An accident involving hazardous materials releases during project construction, operation, or decommissioning through upset or accident conditions is expected to be limited to the project site and immediate vicinity. The project's adherence to existing federal, State, and local regulations, along with the implementation of **MM 4.9-1** and **MM 4.9-2**, would ensure proper handling, storage, and use of hazardous materials and herbicides, thereby minimizing the potential for accidental releases. Additionally, cumulative projects would be required to adhere to the same regulations pertaining to hazards and hazardous materials. Therefore, project

construction would not result in a cumulatively considerable contribution to a significant cumulative impact related to the handling, use, and/or storage of hazardous materials.

The project site is not identified in California hazardous materials databases. However, construction, operation, and decommissioning of the project would require the use of hazardous materials, such as fuels, oils, lubricants, and herbicides. The use of such materials could result in minor spills; however, implementing **MM 4.9-1** would require an HMBP plan that describes how to avoid spills and minimize impacts in the event of spills. Additionally, implementation of **MM 4.10-1** (see **Section 4.10**, *Hydrology and Water Quality)* would require BMPs to be implemented as outlined in the NPDES-mandated SWPPP. Relevant BMPs would include designated fueling and maintenance areas that are supplied with temporary spill containment equipment, such as absorbent booms and pads, and petroleum waste disposal containers. While foreseeable projects have the potential to cause similar impacts, it is assumed these projects would also adhere to federal, State, and local regulations and implement similar BMPs.

Each of the projects included in the evaluation of cumulative impacts, particularly those involving BESS facilities, would be subject to the CFC, NFPA, and KCFD requirements. Cumulative projects that involve BESS would be required to demonstrate that, in an unlikely event, a battery fire occurs, the fire would be contained to a single battery enclosure, and that adjacent enclosures would not be affected by thermal runaway. Furthermore, similar to the plume study completed for the project, cumulative projects would be required to model fire events, demonstrating that reasonably foreseeable releases of hazardous gases are not expected to result in concentrations above applicable health standards at the property line. Fire-preventative measures and fire and safety systems would be incorporated, as applicable, to reduce the potential for battery thermal runaway and other potentially hazardous events to occur. All construction, operation, and decommissioning of the cumulative projects would follow the same safety standards and suppression systems.

Ongoing project maintenance and operations would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. As discussed further in **Section 4.14**, *Public Services*, the project proponent would implement **MM 4.14-1**, which would require the preparation and submittal of a Fire Safety Plan to the KCFD for review and approval. The Fire Safety Plan would address fire hazards of the different components of the project, including the BESS, and would include BMPs to reduce the potential for fire and provide extinguishment techniques if a fire were to occur. Given the distance between the project and other projects included in this cumulative impact analysis, the localized nature of potential hazardous material incidents, and compliance with applicable regulations and **MM 4.14-1**, the project would not result in a cumulatively considerable contribution to a significant cumulative impact related to an upset or accident involving the release of hazardous materials.

The project is located in a low-population-density area, with a few scattered residences in the immediate vicinity. No existing or proposed schools are located within 0.25 miles of the project site. As such, the project would not contribute to significant cumulative impacts associated with emitting or handling hazardous materials in proximity to an existing or proposed school.

The project is not located within an airport land use plan or a public or private airport influence area. In addition, the project would be required to comply with FAA notification and approval requirements for structures exceeding 200 feet in height**.** These requirements would also apply to other projects that meet applicable thresholds. Thus, the project would not result in a cumulatively considerable contribution to hazards associated with airports, air traffic, or airstrip land use compatibility.

The project would increase traffic and require the use of large equipment, which could physically interfere with emergency response plans. However, these potential impacts would be temporary in nature and reduced through the implementation of **MM 4.15-1** (see **Section 4.15**, *Traffic and Transportation*), which requires the preparation and County approval of a Traffic Control Plan. This plan would ensure that adequate emergency access is maintained during construction. Other projects in the cumulative impact study area would be required to demonstrate that the implementation of emergency response plans or emergency evacuation plans would not be impaired or physically interfered with. Therefore, the project would not result in a cumulatively considerable contribution to hazards associated with emergency response plans.

Project implementation would not introduce conditions that provide habitat for vectors, such as mosquitoes, flies, cockroaches, or rodents. Project-related waste would be properly managed and disposed of in accordance with applicable regulations and **MM 4.1-1** (see **Section 4.1**, *Aesthetics*) and **MM 4.17-1** (see **Section 4.17**, *Utilities and Service Systems*), thereby minimizing the potential for vector harborage. Similarly, other projects would be required to properly manage waste to prevent the creation of vector habitat. Therefore, the project would not contribute to a cumulatively considerable impact related to vectors.

SCE Whirlwind Substation Upgrades

As is the case for the development and operation of the project, impacts regarding the handling, use, and/or storage of hazardous materials at the SCE Whirlwind Substation site would be project-specific and would not cumulatively contribute to impacts. An accident involving a hazardous material release during 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 SCE Whirlwind Substation site, would be location-specific. Further, compliance with applicable regulations and existing SCE BMPs regarding hazardous materials would minimize cumulative impacts by ensuring proper handling of hazardous materials and herbicides at the Whirlwind Substation site.

The Whirlwind Substation site is not located within a very high FHSZ. As provided above, SCE would comply with any existing adopted BMPs and all applicable State and federal laws and regulations during construction, including those regulations that relate to wildland fire. Thus, the SCE Whirlwind Substation upgrades would not result in a cumulatively considerable contribution to wildland fire.

The Whirlwind Substation site is not located within an airport land use plan or a public or private airport influence area. In addition, any structures exceeding 200 feet in height would be required to comply with FAA notification and approval requirements. These requirements would also apply to other projects that meet applicable thresholds. Thus, the SCE Whirlwind Substation upgrades would not result in a cumulatively considerable contribution to hazards associated with airports, air traffic, or airstrip land use compatibility.

The Whirlwind Substation site is not located near evacuation routes and is not expected to contribute to cumulative impacts involving emergency response plans or emergency evacuation plans.

The Whirlwind Substation is located on the adjacent parcels to the south of the project site, and there are no existing or proposed schools within the vicinity. Therefore, SCE construction activities would not contribute to a cumulative impact regarding the emission of hazardous materials or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.

SCE would be expected to ensure that waste is managed and appropriately disposed of to avoid creating harborage areas or habitat for vectors. Other projects would also be required to properly manage waste to

ensure that there are limited materials that could be utilized as harborage or habitat for vectors. Therefore, the SCE Whirlwind Substation upgrades would not have a cumulatively considerable impact regarding hazards and hazardous materials.

Mitigation Measures

Implementation of **MM 4.1-1** (see **Section 4.1,** *Aesthetics)*, **MM 4.9-1, MM 4.9-2, MM 4.10-1** (see **Section 4.10**, *Hydrology and Water Quality*), **MM 4.14-1** (see **Section 4.14**, *Public Services*), and **MM 4.15-1** (see **Section 4.15**, *Traffic and Transportation*) would be required.

Level of Significance after Mitigation

Cumulative impacts would be less than significant.

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Section 4.10

Hydrology and Water Quality

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Section 4.10
Hydrology and Water Quality

4.10.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the environmental and regulatory settings related to hydrology and water quality, addresses potential impacts of the project on hydrology and water quality, and discusses mitigation measures to reduce potential impacts to these resources, if applicable.

Information presented in this section is based on technical studies prepared for the project and publicly available data sources. Primary sources include the *Water Supply Assessment* (WSA) (**Appendix L**); the *Preliminary Hydrology Study* (**Appendix H**); and the *Geotechnical Investigation Report* (**Appendix F1**). Additional hydrologic and drainage information was obtained from the *Jurisdictional Waters Delineation Report* prepared for the project (**Appendix C9**), which documents surface hydrology, drainage features, and hydrologic indicators relevant to water quality and regulatory jurisdiction.

4.10.2 Environmental Setting

Regional Setting

South Lahontan Hydrologic Region

The project site is located within the South Lahontan Hydrologic Region (Region). The Region includes all of Inyo County and portions of Mono, San Bernardino, Kern, and Los Angeles counties. It is bounded 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; to the southeast by the New York Mountains, and to the east by the state of Nevada (DWR 2013).

The Region's past tectonic activities and current climate are responsible for present-day hydrologic and drainage characteristics. The bordering mountain ranges have left the Region without an outlet to the Pacific Ocean. As a result, all rivers and streams drain to internal basins. Surface runoff can result from summer thunderstorms and occasionally winter storms. If flow does occur, it provides water sources for ephemeral and intermittent flows to occur in these normally dry streams. The presence of playas reflects the internal drainage characteristic of the Region's many basins (DWR 2013).

According to the 2025 California Groundwater Update, the Region uses 0.34 million acre-feet of groundwater annually, which accounts for nearly 70 percent of the total water supply in the Region. There are 81 groundwater basins in the Region, including one critically overdrafted basin, which has submitted a Groundwater Sustainability Plan (GSP) required under the Sustainable Groundwater Management Act (DWR 2025).

The project is located in the Antelope Valley, where watersheds feed numerous ephemeral streams that originate in the surrounding mountains and meander across the alluvial fans that make up the valley floor. Stormwater runoff that does not percolate into the ground eventually ponds and evaporates in the dry lake beds on the Valley floor. There are a number of canyons and watersheds in the Valley, including Osos Canyon, Pescado Creek, Canyon del Gato-Montes, Sacatara Creek, Spencer Canyon, Kings Canyon, and Cottonwood Creek. The most significant streams in the Valley begin in the San Gabriel Mountains on the southwestern edge of the Valley, and include Big Rock Creek, Little Rock Creek, and Amargosa Creek. Together, these streams drain an area of approximately 330 square miles. The two major watersheds that begin in the Tehachapi Mountains, Oak Creek and Cottonwood Creek, drain an area of about 160 square miles (DWR 2019).

Climate

The project site is characterized by a warm-summer Mediterranean climate, with temperatures averaging between 45 and 80 °F. The average maximum temperature in the project vicinity, based on temperature data recorded at the Fairmont, CA weather station, for the period from 1906 to 2026, ranges from 54 to 91 °F, and the average minimum temperature ranges from 36 to 68 °F. Maximum temperatures in the summer typically reach the low-100s °F, and minimum temperatures in the winter reach the mid-20s °F.

On average, precipitation in the Antelope Valley Region ranges from less than 10 inches per year on the valley floor to more than 12 inches per year in the surrounding mountains. Some areas of the valley floors are subject to flooding due to uncontrolled runoff from these nearby foothills, and this situation is aggravated by the lack of drainage facilities and defined flood channels. Stormwater runoff that does not percolate into the ground eventually floods the impermeable dry lakebeds of Rosamond and Rogers Dry Lakes at Edwards Air Force Base (DWR 2013).

Site Hydrology

Surface Hydrology and Drainage

The project is located at the western edge of the Antelope Valley in the southeastern corner of the desert region in unincorporated Kern County. The project site has a relatively flat terrain with site elevations ranging from approximately 2,970 to 3,760 feet above mean sea level due to being south of the Tehachapi Mountains, where the land gradually slopes downward from the northwest towards the southeast. The site is relatively flat with slopes of less than 2 percent, though there are locations where the slopes reach roughly 5 percent.

The project, including the Southern California Edison (SCE) Whirlwind Substation and tie-line corridors, is located in the Northern Mojave Desert Watershed Basin (HUC-6: 18092), towards the western edge of the Antelope-Fremont Valleys Subbasin (HUC-8: 18090206). Within the subbasin, the project is in the Sacatara Creek-Kings Canyon Watershed (HUC-10: 1809020613). The Northern Mojave Desert Watershed Basin is topographically bordered on the west by the Sierra Nevada Mountains, to the west by the State of Nevada, and to the south by a series of hills and buttes that generally follow the Los Angeles/San Bernardino County line (USGS 2026).

The U.S. Geological Survey's National Hydrographic Database identifies several streams on the project site and in the immediate vicinity (USEPA 2022). The jurisdictional delineation prepared for the project also identified seven unnamed ephemeral drainage features within the project site, including the SCE Whirlwind Substation and tie-line corridors. All drainage features generally flow from the west and north of the site to the southeast corner. On-site drainage only conveys surface flow in direct response to precipitation and does not support riparian vegetation. **Figure 4.10-1**, *Surface Hydrology and Drainage*, identifies mapped watercourses on the project site.

Floodplains

The Federal Emergency Management Agency (FEMA) delineates flood hazard areas on its Flood Insurance Rate Maps (FIRMs); FIRMs are discussed in more detail below under **Section 4.10.3**, *Regulatory Setting*. As shown in **Figure 4.10-2,** *Federal Emergency Management Agency Flood Insurance Rate Map*, the easternmost part of the project site is designated as Flood Zone "A", which is a FEMA-designated flood zone indicating that the area could flood during a 100-year flood event. The western portion of the project site is designated as Flood Zone "X", which indicates the area is of minimal flood hazard. The southeastern corner of the SCE Whirlwind Substation is within Flood Zone "A", while the remainder of the substation and tie-line corridors are within Flood Zone "X".

The project facilities, such as the battery energy storage arrays, operation and maintenance buildings, substations, and transmission infrastructure, would not be sited within a FEMA 100-year flood hazard area. The only permanent structure that is sited within the flood zone is an incident command post, which includes a water tank, pumphouse, and well. A temporary, 3-acre construction laydown area would be sited within the 100-year flood hazard area. Other minimal improvements, such as a detention basin, roadways, fencing, and security features, are proposed within the 100-year flood hazard area. All proposed improvements associated with the SCE Whirlwind Substation and tie-line corridors are located outside of Flood Zone "A".

Portions of the project site have been classified as a Floodplain Secondary (FPS) combining district by the Kern County Zoning Ordinance. FPS combining districts are defined by Kern County Zoning Ordinance as those areas lying within Zones AO and AH and Zone A1-A30 on FEMA FIRMs, but excluding the floodway on the Flood Boundary Floodway Maps, the designated floodway on the State of California's Board of Reclamation's Kern River Designated Floodway Studies, or other maps where engineering studies have been made and adopted by the County Board of Supervisors. Regulations in the FPS district are in addition to the regulations of the base district.

Figure 4.10-1: Surface Hydrology and Drainage

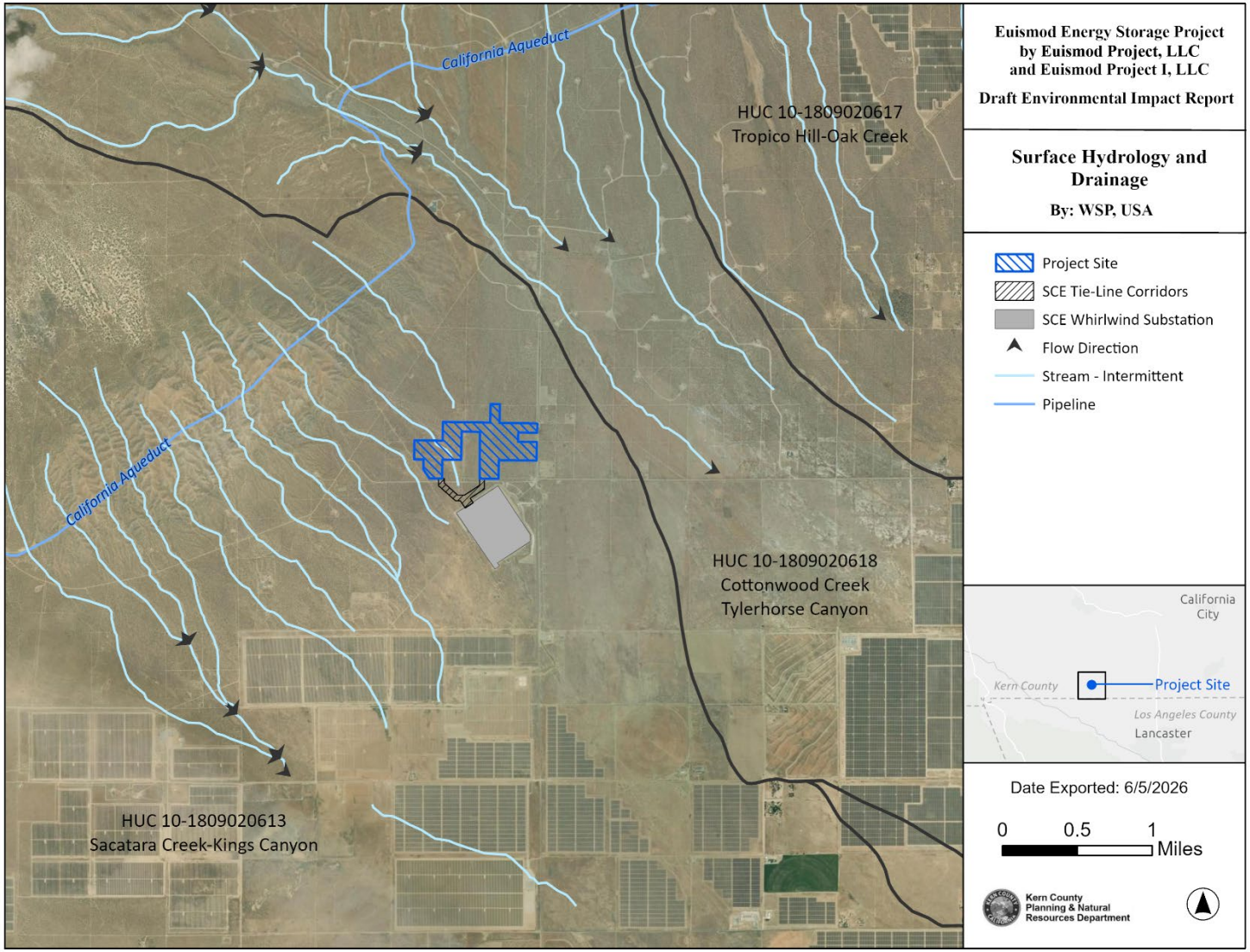
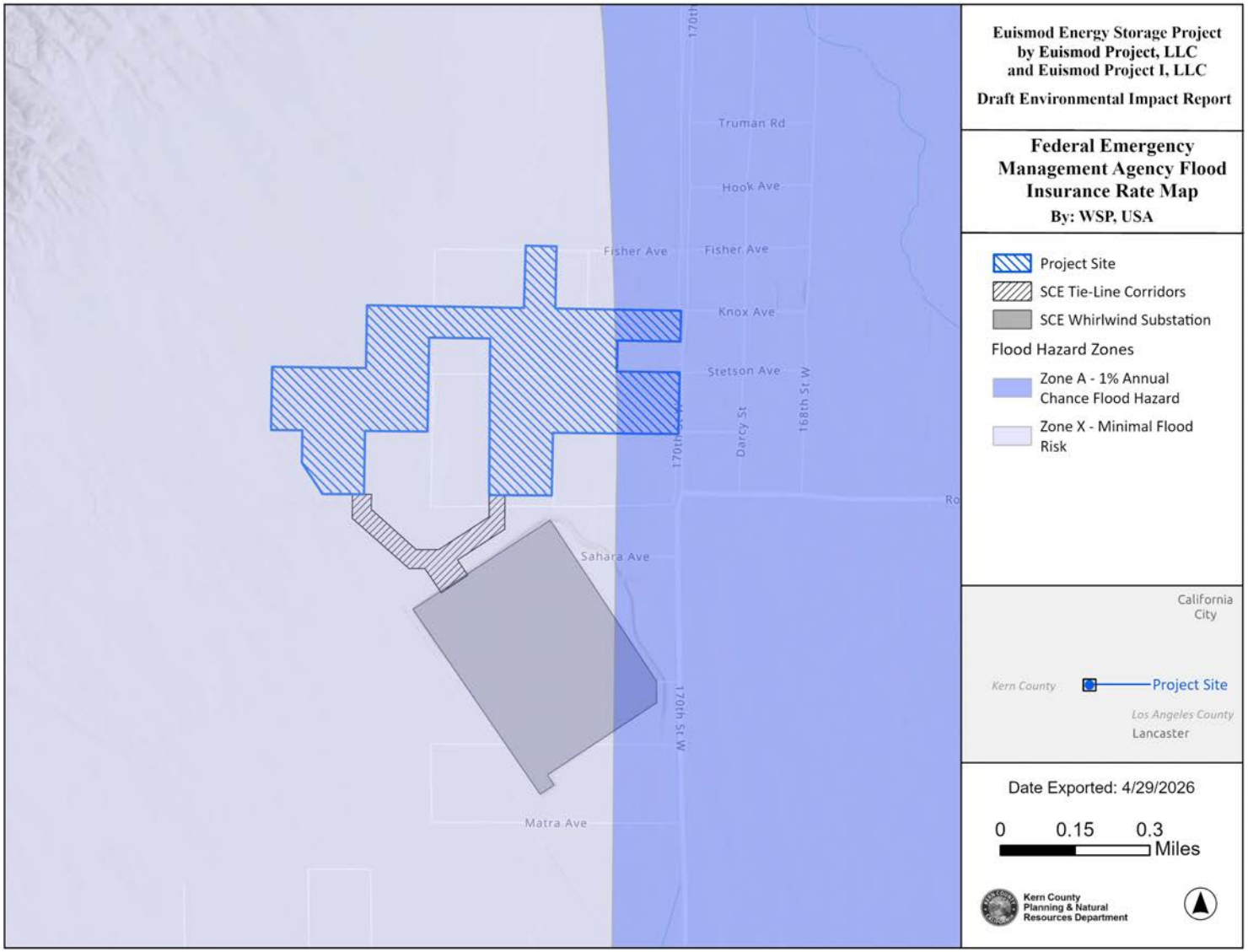


Figure 4.10-2: Federal Emergency Management Agency Flood Insurance Rate Map



Soil Types and Erosion

Soils in the project site and tie-line corridors consist predominantly of sandy loams, with most of the site exhibiting Cajon loamy sand and Hesperia fine sandy loam, with a smaller percentage consisting of Rosamond fine sandy loam. Work at the SCE Whirlwind Substation would be in engineered soils within the existing substation development footprint.

The U.S. Department of Agriculture developed the hydrologic soil group to describe whether rainwater is likely to run off the soil or infiltrate it, with soils likely to infiltrate at a higher rate having a classification of A and soils that are most likely to experience little infiltration having a rating of D. As shown in **Table 4.10-1,** *Soil Groups Within the Project Site*, soils in the project area tend toward high infiltration rates, and thus would absorb most of the infiltrated moisture rather than creating substantial runoff.

TABLE 4.10-1: SOIL GROUPS WITHIN THE PROJECT SITE

Soil Map Description	Percent Slopes	Hydrologic Group	Setting	Drainage
Cajon Loamy Sand	2% to 9%	A	Alluvial fans	Excessively drained
Hesperia Fine Sandy Loam	2% to 5%	A	Floor valleys, Alluvial fans	Well drained
Rosamond Fine Sandy Loam	0% to 2%	B	Floor valleys, Alluvial fans	Well drained

Source: NRCS 2019.

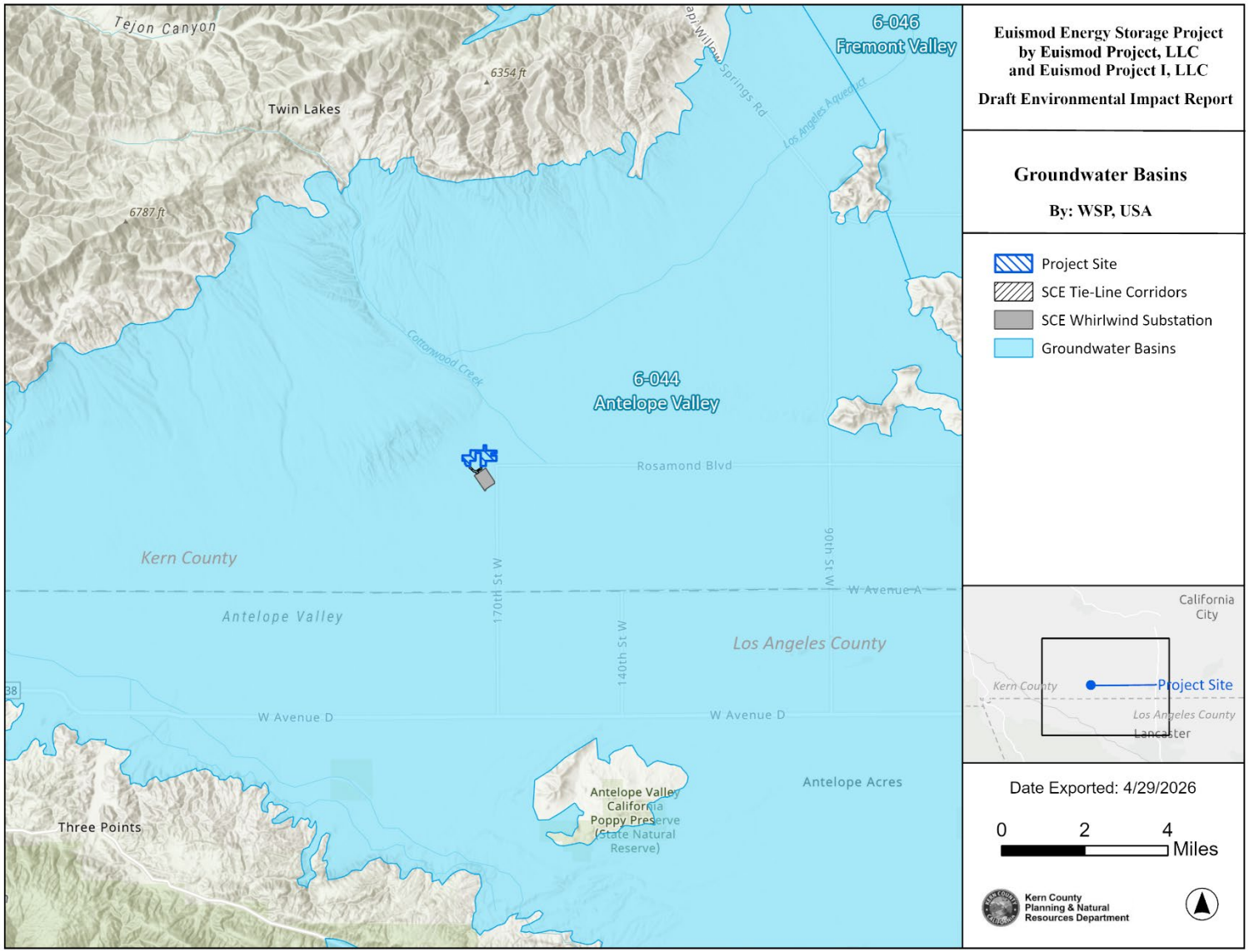
Groundwater Basin

The project site, including the SCE Whirlwind Substation and tie-line corridors, is in the Antelope Valley Groundwater Basin (AVGB) (DWR Basin No. 6-44) of the South Lahontan Hydrologic Region. The AVGB covers approximately 1,580 square miles in Los Angeles, Kern, and San Bernardino Counties. The Fremont Valley Groundwater Basin (FVGB) is located directly to the north, which covers approximately 523 square miles. **Figure 4.10-3,** *Groundwater Basins*, displays the groundwater basins within the project vicinity.

The AVGB underlies an extensive alluvial valley in the western Mojave Desert, with valley floors ranging from 2,300 to 3,500 feet above sea level. The AVGB is bounded on the northwest by the Garlock fault zone at the base of the Tehachapi Mountains and on the southwest by the San Andreas fault zone at the base of the San Gabriel Mountains (DWR 2004).

The two primary water-bearing units of the AVGB include Holocene and Pleistocene unconsolidated alluvial and lacustrine deposits. These deposits are coarsest at higher elevations and become better sorted and finer grained in the valley bottom. Two primary aquifers (upper and lower) are separated by thick, low-permeability clay deposits that can reach as thick as 400 feet. The generally unconfined upper aquifer is the primary source of groundwater for the valley. The total groundwater storage capacity of the AVGB is estimated to be around 68 to 70 million acre-feet.

Figure 4.10-3: Groundwater Basins



Groundwater in the AVGB varies by well and location but is generally of good quality and suitable for domestic, agricultural, and industrial uses. The average concentration of total dissolved solids is approximately 350 milligrams per liter. Constituents of concern in the AVGB that have been detected at elevated concentrations that exceed drinking water standards include total dissolved solids, nitrate, chloride, arsenic, total chromium, fluoride, and boron. In general, of these constituents, arsenic is the only constituent that is widespread at a concentration above the drinking water maximum contaminant level of 10 micrograms per liter. Arsenic is a naturally occurring constituent commonly detected at elevated concentrations in desert basins in Southern California. Elevated levels of arsenic have been detected in wells located to the south and west of the project site.

Approximately 1,390 square miles, or 90 percent of the AVGB, has been adjudicated with an order to be managed by a watermaster since 2015. The AVGB was adjudicated to provide a framework to sustainably manage the basin to reverse groundwater level declines and reduce subsidence. The adjudicated area is divided into five subareas for management purposes: Central Antelope Valley Subarea, West Antelope Valley Subarea, South East Subarea, Willow Springs Subarea, and Rogers Lake Subarea. The project site is located in the West Antelope Valley Subarea. The project site is located within the adjudicated portion of the AVGB and is therefore bound by the judgment stipulated for the basin.

4.10.3 Regulatory Setting

Federal

Clean Water Act

The Clean Water Act (CWA) (33 United States Code [U.S.C.] Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA required states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain nonpoint-source discharges to surface water. Those discharges are 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). Projects that disturb one or more acres, including the project, typically are required to obtain NPDES coverage under the Construction General Permits (RWQCB 2026).

CWA Section 401, Water Quality Certification. Section 401 of the CWA requires that, prior to issuance of any federal permit or license, any activity, including river or stream crossing during road, pipeline, or transmission line construction, which may result in discharges into waters of the United States, the activity 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 (RWQCB 2026).

CWA Section 402, National Pollutant Discharge Elimination System. Section 402 of the CWA authorizes the State Water Resources Control Board (SWRCB) to issue an 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) that 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 United States.
- Perform inspections of all BMPs.

The project site is within the Lahontan RWQCB's jurisdiction; therefore, the Lahontan RWQCB would administer NPDES regulations for the project (RWQCB 2026).

CWA 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 United States, 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 applying for a CWA Section 404 permit, the applicant must demonstrate that they have done the following:

- Attempted to avoid impacts to Wetlands or Waters of the United States, where practicable
- Minimized unavoidable impacts on Waters of the United States and wetlands
- Provided mitigation for unavoidable impacts

Section 404 of the CWA requires a permit for construction activities involving the placement of any kind of fill material into waters of the United States or wetlands. A water quality certification pursuant to Section 401 of the CWA is required for Section 404 permit actions (RWQCB 2026).

CWA Section 303, Water Quality Standards and Implementation Plans. Section 303(d) of the CWA (33 U.S.C. 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 submit a list of this information 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 load (TMDL) requirements. The SWRCB and RWQCBs have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to develop TMDL requirements.

National Flood Insurance Act

FEMA is responsible for managing the National Flood Insurance Program (NFIP), which makes federally backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. The NFIP, established in 1968 under the National Flood Insurance Act, requires that participating communities adopt certain minimum floodplain management standards, including restrictions on new development in designated floodways, a requirement that new structures in the 100-year flood zone be elevated to or above the 100-year flood level (known as base flood elevation), and a requirement that subdivisions be designed to minimize exposure to flood hazards.

To facilitate identifying areas with flood potential, FEMA has developed FIRMs that can be used for planning purposes, including floodplain management, flood insurance, and enforcement of mandatory flood insurance purchase requirements. Kern County (County) is a participating jurisdiction in the NFIP and,

therefore, all new development must comply with the minimum requirements of the NFIP (Horne et al. 2026).

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 (DWR 2026).

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act; Water Code Sections 13000 et seq.), passed in 1969, requires the protection of water quality by the 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 an RWQCB. The SWRCB is the primary State agency responsible for protecting the quality of the State's surface and groundwater supplies and has delegated primary implementation authority to the nine RWQCBs. The Porter-Cologne Act assigns responsibility for implementing the CWA Sections 401, 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 Act requires that any person discharging waste or proposing to discharge waste within any region other than to a community sewer system, which could affect the quality of the waters of the State, file a report of waste discharge. Absent a potential effect on the quality of waters of the State, no notification is required. However, the RWQCB encourages implementation of BMPs similar to those required for NPDES stormwater permits to protect the water quality objectives and beneficial uses of local surface waters as provided in the Lahontan RWQCB Plan (Basin Plan) (RWQCB 2026).

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) requires the formation of locally controlled groundwater sustainability agencies in high- and medium-priority groundwater basins. These groundwater sustainability agencies are responsible for developing and implementing a GSP to ensure the basin is operated within its sustainable yield without causing undesirable results (DWR 2025).

The majority of the AVGB has been adjudicated with an order to be managed by a watermaster since 2015, with the Superior Court of the State of California's approval of the AVGB Judgment and Physical Solution.

The Judgment determined the AVGB to be in a state of overdraft, established respective water rights among groundwater producers, and ordered a ramp down of production to the native safe yield. Although the AVGB is adjudicated, the Judgement designated it as a very low-priority basin and is not subject to SGMA requirements (DWR 2019).

As part of the Judgment, the Antelope Valley Watermaster (Watermaster) was formed and appointed by the court to implement and enforce the Judgment. The Watermaster is charged with administering the adjudicated water rights and managing the groundwater resources within the area of adjudication. The project site is located within the adjudicated portion of the AVGB and is therefore bound by the judgment stipulated for the basin.

The Physical Solution quantified the reduction of groundwater production within the adjudicated area to reach the native safe yield of 82,300 acre-feet per year (AFY) over a seven-year period (2016–2022) to a final production right. Producers that were allocated a portion of the native safe yield were required to reduce production linearly from a pre-rampdown production amount to their assigned production right. In addition to production rights, there are six other potential production categories identified in the Judgment: pre-rampdown production, imported water return flows, carryover, stored water, other rights to produce groundwater, and additional production. Of particular relevance to the project is carryover, which is the unused portion of an annual production right that can be carried over to the next year for up to ten years. At the end of ten years, the producer may enter into a storage agreement with the Watermaster to store unproduced carryover water.

Along with the native safe yield, the Judgment established a total safe yield for the basin, which is the amount of groundwater that can be safely pumped over the long-term and is the sum of the native safe yield plus return flows from imported water. Because imported surface water provides groundwater recharge through return flows estimated at approximately 27,700 AFY, the total safe yield was set at 110,000 AFY.

According to the Antelope Valley Watermaster Annual Report prepared for 2024, the total production by parties with production rights has declined since the AVGB was adjudicated and appears to be stabilizing close to the native safe yield. Groundwater levels across the AVGB have either stabilized or the rates of decline have decreased in recent years, compared to the preceding two decades.

Senate Bill 610

Senate Bill (SB) 610 amended the California Water Code to require a detailed analysis of water supply available to certain types of development projects and to improve the linkage between water supply availability and certain land use decisions. SB 610 requires that land use decisions for certain large development projects are fully informed as to whether a sufficient water supply is available to meet project demands. 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. Assessments also must identify existing water entitlements, rights, contracts, and quantify 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. The project satisfies the statutory definition of a "project" for the purpose of determining SB 610 applicability because it is an industrial project occupying more than 40 acres of land, per California Water Code Section 10912(a)(5); therefore, a WSA was prepared (**Appendix L**).

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 does any of the following:

- Diverts or obstructs the natural flow of any river, stream, or lake
- Changes the bed, channel, or bank of any river, stream, or lake
- Uses material from any river, stream, or lake
- Deposits or disposes of material 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 (CDFW 2026).

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to hydrology and water quality. The goals, policies, and implementation measures in the Kern County General Plan (KCGP) and the Willow Springs Specific Plan related to hydrology and water quality that are applicable to the project are provided below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for hydrology and water quality applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

Land Use, Open Space, and Conservation Element

1.3 Physical and Environmental Constraints

Policies

Policy 1: The County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 [Seismic Hazard], Map Code 2.2 [Landslide], Map Code 2.3 [Shallow Groundwater], Map Code 2.5 [Flood Hazard], Map Codes from 2.6 – 2.9, Map Code 2.10 [Nearby Waste Facility], and Map Code 2.11 [Burn

Dump Hazard]) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.

Policy 8: Encourage the preservation of the floodplain's flow conveyance capacity, especially in floodways, to be open space/passive recreation areas throughout the County.

Policy 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.

Policy 10: The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.

Policy 11: Protect and maintain watershed integrity within the County.

Implementation Measures

Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.

Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.

Measure J: Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.

Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.4 Public Facilities and Services

Goals

Goal 9: Serve the needs of industries and Kern County residents in a manner that does not degrade the water supply and the environment and protect the public health and safety by avoiding surface and subsurface nuisances resulting from the disposal of hazardous wastes, irrespective of the geographic origin of the waste.

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.

Implementation Measures

Measure C: The County Planning Department will seek review and comment from the County Public Works Department, Engineering and Survey Services Division on the implementation of the National Pollution Discharge Elimination System for all discretionary projects.

1.10 General Provisions

Implementation Measures

Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the County's Public Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site-specific documentation that characterize the quality of upper groundwater in the alternative septic systems would adversely impact groundwater quality. If the evaluation indicated that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the RWQCB or would if the alternative septic system is installed, the applicant would be required to supply sewage collection, treatment, and disposal facilities.

1.10.6 Surface Water and Groundwater

Policies

Policy 34: Ensure that water quality standards are met for existing users and future development.

Policy 39: Encourage the development of the County's groundwater supply to sustain and ensure water quality and quantity for existing users, planned growth, and maintenance of the natural environment.

Policy 40: Encourage utilization of community water system rather than the reliance on individual wells

Policy 41: Review development proposals to ensure adequate water is available to accommodate projected growth.

Policy 43: Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.

Policy 44: Discretionary projects shall analyze watershed impacts and mitigate for construction-related and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act (CEQA), to prevent the degradation of the watershed to the extent practical.

Implementation Measures

Measure Y: Promote efficient water use by utilizing measures such as:

(i) Requiring water-conserving design and equipment in new construction;

(ii) Encouraging water-conserving landscaping and irrigation methods; and

(iii) Encouraging the retrofitting of existing development with water conserving devices.

Willow Springs Specific Plan

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). The plan was adopted in 1992 and amended in 2008 as part of the Land Use, Open Space, and Conservation Element of the KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for hydrology and water quality applicable to the project are provided below. The plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated in **Chapter 2**, *Introduction*, all goals, policies, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Resources

Policies

Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.

Policy 20: Areas along rivers and streams will be conserved where feasible to enhance drainage, flood control, recreational, and other beneficial uses while acknowledging existing land use patterns.

Implementation Measures

Measure 5: All grading and landform modifications shall be conducted in conformance with state-of-the-practice design and construction parameters. Typical standard minimum guidelines are set forth in Chapter 70 of the Uniform Building Code. All graded slopes shall be constructed so that the entire slope is stable.

Measure 6: Surface water runoff shall be controlled via storm drains or other positive surface water control structures.

Measure 8: Prior to grading permit issuance, evaluation of the collapse/hydroconsolidation potential and other engineering parameters of the various alluvial and lacustrine sediments and to provide appropriate remedial grading recommendations, a comprehensive geotechnical investigation, including exploratory drilling/trenching, sampling, and laboratory testing shall be required. Page 10 of Appendix B of the Environmental Impact Report (from the Willow Springs Specific Plan) provides recommended remedial measures that may be considered on an individual project basis.

Measure 9: Prior to the issuance of building permits and on an individual basis, flood control channels and debris basins shall be designed and constructed in order to reduce or eliminate the potential for flooding and/or debris/ mudflows to affect future developments.

Measure 11: Remedial grading and removal shall be performed on the sites which consist of erodible and collapsible soils prior to site development.

Measure 13: To minimize expansive soil conditions, complete avoidance or engineering design for correction of adverse conditions shall be required prior to building permit issuance on an individual project basis. Contained in Appendix B of the Environmental Impact Report (from the Willow Springs Specific Plan) "Soils and Geology Report" on page 12, provisions are recommended as remedial measures to lessen adverse conditions.

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 grading permits, individual project applicants shall obtain all 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 the Army Corps of Engineers.

Public Facilities

Goals

Goal 3: To restrict, if possible, any further and/or unnecessary drawdown of the water table within the plan area.

Implementation Measures

Measure 13: The County will provide technical assistance to the Rosamond Community Services District as necessary in the acquisition of additional sites for sewage disposal.

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.

Water Quality and Availability

Policies

Policy 1: Water supply method and wastewater disposal/treatment facility shall be as required by the County.

Policy 2: Separate environmental documentation shall be required for the methods of water supply and wastewater disposal/treatment selected.

Implementation Measures

Measure 3: As required by State law, water conservation measures identified in the Environmental Impact Report shall be incorporated into the individual projects. The following water conservation measures shall be implemented where applicable and feasible:

Interior

- Supply Line Pressure: Water pressure greater than 50 pounds per square inch (psi) be reduced to 50 psi or less by means of a pressure reducing valve.

- Drinking Fountains: Be equipped with self-closing valves.
- Laundry Facilities: Water-conserving models of washers be used.
- Ultra-Low Flush Toilets: 1.5 gallons per flush toilets installed in all new construction. Exterior
- Landscape with low-water-consuming plants wherever feasible.
- Minimize use of lawn by limiting it to lawn-dependent uses, such as playing fields. When lawn is used, require warm season grasses.
- Group plants of similar water use to reduce over irrigation of low-water-using plants.
- Provide information to occupants regarding benefits of low-water-using landscaping and sources of additional assistance.
- Use mulch extensively in all landscape areas. Mulch applied on top of soil will improve the water-holding capacity of the soil by reducing evaporation and soil compaction.
- Preserve and protect existing trees and shrubs. Established plants are often adapted to low water-using conditions, and their use saves water needed to establish replacement vegetation.
- Install efficient irrigation systems which minimize runoff and evaporation and maximize the water which will reach the plant roots. Drip irrigation, soil moisture sensors, and automatic irrigation systems are a few methods to consider in increasing irrigation efficiency and may be feasible for the projects.
- Use pervious paving material whenever feasible to reduce surface water runoff.
- Investigate the feasibility of utilizing reclaimed wastewater, stored rain water, or gray water for irrigation.

Measure 4: The individual project applicants shall adhere to the following guidelines as established by the Department of Water Resources for flood damage prevention:

- As State policy includes the conservation of water, any potential loss to groundwater shall be mitigated.
- All building structures shall be protected against a 100-year flood.
- In those areas not covered by a Flood Insurance Rate Map or Flood Boundary and Floodway Map, issued by the Federal Emergency Management Agency, the 100-year flood elevation and boundary shall be shown in the project-specific Environmental Impact Report.
- At least one route of ingress and egress to the individual developments shall be available during the 100-year flood.
- The slope and foundation designs for all structures shall be based on detailed soils and engineering studies.

- Revegetation of disturbed or newly constructed slopes shall be completed as early as possible (utilizing native or low-water-using material).
- The potential damage to the proposed individual developments by mudflow shall be assessed and mitigated on a project-by-project basis.
- Grading for the individual projects shall be limited to dry months to minimize problems associated with sediment transport during construction.

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 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 D: Storage of junk or salvage operations.

Measure E: Oil storage tanks or processing equipment, unless flood-proofed or sufficiently elevated above the Base Flood Elevation, as determined by the Kern County Public Works Department.

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 Code of Building Regulations

Grading Code (Chapter 17.28)

Chapter 17.28 Kern County Grading Code. Requirements of the Kern County Grading Code would be implemented. A grading permit would 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 workday during grading operations, such that existing drainage channels would not be blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust nuisance. Deposition of rocks, earth materials, or debris onto adjacent property, public roads, or drainage channels shall not be allowed.

Kern County Floodplain Management Ordinance (17.48)

Any construction that takes place within areas of special flood hazards, areas of flood-related erosion hazards, and areas of mudslide (i.e., mudflow) hazards within the jurisdiction of unincorporated Kern County would comply with the requirements and construction design specifications of this ordinance. Any required development permits would 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. This includes the requirement of 1 foot of freeboard clearance above the calculated maximum flood depths for all facilities within a 100-year floodplain.

Kern County Development Standards

The Kern County Development Standards apply to all developments within Kern County that are outside of incorporated cities. These standards establish minimum design and construction requirements that will result in improvements that are economical to maintain and will adequately serve the general public. The requirements set forth in these standards are considered minimum design standards and will require the approval of the entity that will maintain the facilities to be constructed prior to approval by the County.

Kern County Water Quality Control Plan

Each of the nine RWQCBs adopts a Water Quality Control Plan that recognizes and reflects regional differences in existing water quality, the beneficial uses of the region's groundwater and surface waters, and local water quality conditions and problems. Water quality problems in the regions are listed in these plans, along with the causes, if they are known. Each RWQCB is to set water quality objectives that will ensure the reasonable protection of beneficial uses and the prevention of nuisance, with the understanding that water quality can be changed somewhat without unreasonably affecting beneficial uses.

The Kern County Engineering and Survey Services Department requires the completion of an NPDES applicability form for all construction projects disturbing one or more acre within Kern County. This form requires the project proponent to provide background information on construction activities. Applicants must apply for the permit under one of the following four conditions (Kern County 2026):

1. *All storm water is retained on-site and no storm water 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 storm water runoff is not retained on-site but does not discharge to a water of the United States (i.e. drains to a terminal drainage facility). Therefore, a SWPPP has been developed and BMPs must be implemented.*
3. *All storm water runoff is not retained on-site and the discharge is to a water of the United States. Therefore, a Notice of Intent (NOI) must be filed with the State Regional Water Resources Control Board prior to issuance of the building permit. Also, a SWPPP has been developed and BMPs must be implemented.*
4. *Construction activity is between 1 to 5 acres and an Erosivity Waiver was granted by the SWRCB. BMPs must be implemented.*

Water Rights Adjudication

A groundwater rights adjudication for the AVGB was finalized in December 2015. The Judgment and Physical Solution for the Antelope Valley Groundwater Adjudication represents more than 15 years of complex proceedings among more than 4,000 parties, including public water suppliers, landowners, small pumpers and non-pumping property owners, and the federal and state governments. Through four phases, the adjudication defined the boundaries of the basin, considered hydraulic connection throughout the basin, established the safe yield, and quantified groundwater production. The Judgment identified a state of overdraft, established respective water rights among groundwater producers, and ordered a rampdown of production to the native basin safe yield. The adjudication provides a framework to sustainably manage the basin and reduce groundwater level declines and subsidence. To administer the Judgment, the Court directed the 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 Final Antelope Valley Watermaster 2024 Annual Report was finalized on July 24, 2025 (Todd Groundwater 2025), and the Antelope Valley Watermaster 2025 Annual Report Initial Draft was posted on June 9, 2026 (Todd Groundwater 2026).

4.10.4 Impacts and Mitigation Measures

Methodology

This section analyzes potential impacts on hydrology and water quality from 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. The project's potential impacts to hydrology and water quality have been evaluated using the *Water Supply Assessment* (**Appendix L**); the *Preliminary Hydrology Study* (**Appendix H***)*, the *Geotechnical Investigation Report* (**Appendix F1**); the *Jurisdictional Waters Delineation Report* (**Appendix C9**); and multiple online sources and published documents. Using the aforementioned resources and professional judgment, impacts were analyzed according to the 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 hydrology and water quality.

A project could have a significant impact on hydrology and water quality if it would:

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;

b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

   i. Result in substantial erosion or siltation on-site or off-site;

   ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-site 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 a flood hazard, tsunami, or seiche zones, or 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 degrade water quality.

Water quality standards and waste discharge requirements could be violated if the proposed project releases polluted discharges into receiving waters exceeding permissible amounts. Polluted discharges can generate polluted stormwater runoff (that is, water generated during storm events) or dry weather runoff (that is, water generated during activities such as dust control). Polluted discharge can consist of sediment from erosion, pollutants from herbicides or pesticides applied to agricultural lands or vegetation, or pollutants from construction equipment, such as oil drippings or accidental spills of petroleum hydrocarbons.

Construction

Project construction would involve clearing, grubbing, and grading approximately 105.6 acres of the 120-acre project site. The project site is nearly level and close to the desired finish grades needed for construction. Thus, extensive grading would be limited throughout the project site. Grading would be completed using common construction equipment such as water trucks, bulldozers, loaders, haul trucks, and graders. Rough grading would include conditioning foundation areas as needed to achieve proper and consistent compaction in the subgrade and over the rough graded surface, and achieving a cut/fill balance. Project construction would also involve creating a 3-acre temporary laydown area. The laydown area would be used for the temporary storage of materials and equipment. These activities have the potential to affect current drainage patterns and erosion on the project site, and soils could become exposed to high winds or

heavy precipitation, causing a substantial increase in sedimentation in stormwater runoff, leading to a potentially significant impact.

Potential impacts on water quality from erosion and sedimentation are expected to be localized and temporary during construction. Stormwater runoff from the project site would not discharge to Waters of the United States because the project is within a watershed that is not hydrologically connected to a navigable waterway. However, because the project would disturb more than 1 acre, the NPDES Construction General Permit would require the project to implement a SWPPP during construction. Per **Mitigation Measure** (**MM) 4.10-1**, the SWPPP would include BMPs designed to prevent the occurrence of soil erosion and discharge of other construction-related pollutants that could contaminate water quality and would be applicable to all areas of the project. In addition, **MM 4.4-4**, as described in **Section 4.4**, *Biological Resources*, requires BMPs consistent with the Kern County zoning ordinances and guidelines provided in the California Stormwater Quality Association's Construction Best Management Practice Handbook.

MM 4.10-2 would require the preparation of a Final Drainage Plan per the Kern County Development Standards and the Kern County Code of Building Regulations before issuance of a grading permit. The Final Drainage Plan would provide recommendations to ensure facilities are located and designed to lessen their impact on drainage patterns and erosion. The Final Drainage Plan may also include other erosion and sedimentation control measures, such as identifying revegetation requirements or applying earth-binding materials to disturbed areas, thus minimizing long-term erosion.

During 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 petroleum products (e.g., gasoline, diesel, motor oil), automotive fluids (e.g., antifreeze, lubricant oils, transmission fluid, hydraulic fluids), cement slurry, and other fluids utilized by construction vehicles and equipment. Motorized equipment could leak hazardous materials due to inadequate or improper maintenance, unnoticed or unrepaired damage, improper refueling, or operator error. The mobilization of sediment or inadvertent spills or leaks of such pollutants could affect the quality of runoff water from construction activities.

As described in **Section 4.9**, *Hazards and Hazardous Materials*, **MM 4.9-1** would require the project proponent to provide a Hazardous Materials Business Plan that would delineate hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies, including fires. Therefore, with the implementation of **MM 4.4-4**, **MM 4.9-1, MM 4.10-1**, and **MM 4.10-2**, potential impacts to water quality would be less than significant during construction.

Operation

During operations, the project would not generate process wastewater discharges. However, routine operation and maintenance activities could involve the limited use and storage of certain hazardous materials, such as fuels, paints, coatings, lubricants, and transformer oil. If these materials were to be accidentally released, they could contaminate stormwater and lead to potentially significant degradation of water quality. However, as described above, implementation of **MM 4.9-1** would require the development and implementation of a Hazardous Materials Business Plan. This plan would ensure the safe handling of hazardous materials on-site and provide procedures for prompt cleanup in the event of an accidental release.

Water quality may be degraded by non-hazardous materials during operational activities. For example, during dry periods, impervious surfaces, such as hardscape surfaces like foundations and buildings, can collect greases, oils, and other vehicle-related pollutants. During storm events, these pollutants may mix with stormwater, leading to a potentially significant degradation in water quality. To address this potentially significant impact, **MM 4.10-2** requires the preparation of a Final Drainage Plan that complies with Kern County Development Standards and Kern County Code of Building Regulations. This plan would include post-construction drainage controls and BMPs to manage runoff and reduce pollutant mobilization. Examples of BMPs may include drainage swales designed to collect runoff before it discharges off-site. Following these requirements would minimize the potential risk of water quality degradation during operations.

With the implementation of **MM 4.9-1** and **MM 4.10-2**, the project would not violate water quality standards or waste discharge requirements or otherwise degrade water quality in surface water or groundwater.

Decommissioning

Decommissioning impacts would be similar to those described for construction and would be required to comply with the same applicable water quality regulations as those identified for construction. Ground-disturbing activities during decommissioning would also require coverage under the Construction General Permit and the implementation of a SWPPP to effectively control erosion, sedimentation, and the release of pollutants during decommissioning activities. Therefore, the project would result in less than significant impacts on water quality during the decommissioning period.

SCE Whirlwind Substation Upgrades

The project includes two 220-kV overhead tie-lines to the SCE Whirlwind Substation located on the adjacent parcels to the south of the project site. SCE's work activities outside of the Whirlwind Substation, including tie-line access clearing, installing telecommunications lines and tie-line support poles or towers, stringing overhead conductors, and operating and maintaining tie-lines to the Point of Change of Ownership, would disturb all land within a 100-foot-wide corridor centered on each of the off-site tie-line alignments. Within the existing Whirlwind Substation, each tie-line would require the installation of facilities for a new 220-kV switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3.0**, *Project Description*.

Ground disturbances associated with SCE construction at the Whirlwind Substation would occur within the previously developed footprint of the Whirlwind Substation. Construction activities associated with the tie-lines would be required within the two 100-foot tie-line corridors, including tie-line structure and telecommunication infrastructure. Impacts associated with SCE's interconnection are included in the analysis of the project as a whole. SCE would comply with existing adopted BMPs and adopted minimization measures, along with all applicable federal and State laws and regulations, including those related to water quality. Therefore, the SCE Whirlwind Substation upgrades would not violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality, and impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.4-4** (see **Section 4.4,** *Biological Resources*), **MM 4.9-1** (see **Section 4.9,** *Hazards and Hazardous Materials*), and **MM 4.10-1** and **MM 4.10-2** would be required.

MM 4.10-1: Prior to issuance of a grading permit, the project proponent/operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) for review and approval by the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department. The SWPPP shall be designed to minimize runoff and shall specify BMPs to prevent all construction pollutants from contacting stormwater, with the intent of keeping sediment or any other pollutants from moving offsite and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended best management practices to be incorporated in the SWPPP may include the following:

a. Minimize vegetation removal.

b. Implement sediment controls, including silt fences as necessary.

c. Install stabilized construction entrance/exit and stabilization of disturbed areas.

d. Properly contain and dispose of hazardous materials used for construction on-site.

e. Properly cover stockpiled soils to prevent wind erosion.

f. Properly protect and contain protections for fueling and maintenance of equipment and vehicles.

g. Appropriately dispose of demolition debris, concrete, and soil, and aggressively controlling litter.

h. Cleanup silt and mud on adjacent streets due to construction activity.

i. Check all lined and unlined ditches after each rainfall.

j. Restore all erosion control devices to working order to the satisfaction of the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department after each rainfall runoff.

k. Install additional erosion control measures as may be required due to uncompleted grading operations or unforeseen circumstances that may arise.

MM 4.10-2: Prior to the issuance of grading permits, the project proponent/operator shall complete a Final Drainage Plan designed to evaluate and minimize potential increases in runoff from the project site. The study shall include the following:

a. A numerical stormwater model for the project site that evaluates existing and proposed (with project) drainage conditions during storm events ranging up to the 100-year event.

b. The study shall also consider the potential for erosion and sedimentation in light of modeled changes in stormwater flow across the project area that would result from project implementation.

c. Engineering recommendations to be incorporated into the project design and applied within the site boundary. Engineering recommendations will include measures to offset

increases in stormwater runoff that would result from the project, as well as implementation of design measures to minimize or manage flow concentration and changes in flow depth or velocity so as to minimize erosion, sedimentation, and flooding on-site or off-site.

d. A specification that the final design of the battery energy storage arrays shall include one foot of freeboard clearance above the calculated maximum flood depths for the battery energy storage arrays or the finished floor of any permanent structures. Any permanent infrastructure placed within a 100-year floodplain shall be graded to direct potential flood waters without increasing the water surface elevations more than one foot or as required by Kern County's Floodplain Management Ordinance.

e. The Final 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

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 site is in the AVGB (DWR Basin No. 6-44) of the South Lahontan Hydrologic Region. The AVGB covers approximately 1,580 square miles in Los Angeles, Kern, and San Bernardino Counties. Approximately 1,390 square miles, or 90 percent of the AVGB, has been adjudicated with an order to be managed by a watermaster since 2015. The AVGB was adjudicated to provide a framework to sustainably manage the basin to reverse groundwater level declines and reduce subsidence. The Judgment established a native safe yield of 82,300 AFY and a total safe yield of 110,000 AFY. Groundwater production over the past five years has been below both the native and total safe yields, and ranged from approximately 58,408 AF in 2023 to 79,757 AF in 2021.

Construction

The project would require water for common construction-related purposes, including dust suppression, soil compaction, and grading. Water for grading and dust suppression is expected to be the primary water demand during construction. Project water demand during construction is estimated to require approximately 27.5 AFY and 55 AF total. The estimated project construction water demand of 55 AF provides a conservative estimate of construction water demand appropriate for long-term planning purposes. The annual demand estimate of 27.5 AFY assumes construction would be completed in two years; however, construction could potentially extend over a longer period, in which case the annual water demand would be less.

Water supply sources for the project include groundwater from the AVGB, which would be drawn from new on-site well(s) via an Adjudicated Water Rights Agreement. Additionally, water may be sourced from the FVGB using private well(s) or purchased from a local retailer, such as Mojave Public Utility District, and transported to the project site via truck. Another option is obtaining State Water Project water provided by the Antelope Valley–East Kern Water Agency (AVEK) through a local retailer, such as Rosamond

Community Services District, also trucked to the project site. A combination of these sources may also be considered.

While there are several water supply sources, the project plans to purchase existing groundwater production rights in the AVGB via an Adjudicated Water Rights Purchase Agreement. The project plans to purchase production rights of sufficient volume for the project from an existing water rights holder who holds 294 AF of overlying production rights and 2,432 AF of carryover water. Specifically, the project is purchasing 3 AF of permanent production rights and 65 AF of carryover water rights from the year 2023.

Implementation of **MM 4.17-1** (see **Section 4.17**, *Utilities and Service Systems*) would require the project proponent to provide documentation demonstrating that sufficient water supplies have been secured and will be available for project construction, operation and maintenance, and decommissioning during normal, single-dry, and multiple-dry years. Accordingly, the project would not substantially decrease groundwater supplies or impede sustainable groundwater management of the basin.

Additionally, construction would involve clearing, grubbing, and grading of the site and creating a 3-acre temporary laydown area to store materials and equipment. These activities have the potential to introduce new temporary impervious areas and alter the natural flows for groundwater recharge, leading to a potentially significant impact. Adhering to the requirements of the Kern County Grading Code and the resulting various measures designed to prevent erosion and control drainage on-site, thereby preventing potential sedimentation and subsequent degradation of stormwater. Further, **MM 4.10-1** requires implementing BMPs such as revegetation, silt fences, and stabilized construction entrances, which would minimize impacts on stormwater runoff. Thus, project construction would have a less than significant impact on groundwater supplies or recharge.

Operations

Once construction is complete, the operational water demand is estimated to be 3 AFY or less. Water demands during operation would include water for the operation and maintenance facility, fire suppression, and various other uses. Water for the operation and maintenance facility and fire suppression is estimated to be approximately 0.06 AFY. This estimate is based on the sanitary demands of six employees at 10 gallons per employee per shift (0.05 AFY), and a one-time demand to fill one or more water storage tanks totaling up to 30,000 gallons (less than approximately 0.01 AFY over 35 years) for fire supply. Additional operation and maintenance water demands may occur over the period of operations; for example, for dust control or soil conditioning, if there is a need for road repair or other excavation or grading during a maintenance or repair event. To ensure a water supply is available when needed, long-term planning for total operation and maintenance demand was rounded up to 3 AFY. As previously discussed, the project plans to purchase 3 AF of permanent production rights and 65 AF of carryover water rights from the year 2023 from existing groundwater production rights in the AVGB via an Adjudicated Water Rights Purchase Agreement. Implementation of **MM 4.17-1** would further ensure sufficient water supplies would be available for the project. Therefore, sufficient water supply would be available for project operation, and the project would not substantially decrease groundwater supplies or impede sustainable groundwater management of the basin.

The project would increase the amount of impervious areas on-site as a result of the battery energy storage arrays, operation and maintenance structures, paved driveways throughout the arrays, and associated infrastructure. These project components would reduce stormwater infiltration and increase runoff compared to existing conditions, which could result in potentially significant impacts on groundwater recharge. However, stormwater flows would be controlled by run-off diversion ditches, elevated on-site

driveways, shallow rip-rap-lined ditches, and detention and retention basins, as shown in **Figure 3-15,** *Proposed Grading Plan.* In addition, the project would be required to comply with applicable stormwater and drainage requirements, including the preparation of a Final Drainage Plan (**MM 4.10-2**) and implementation of construction stormwater controls (**MM 4.10-1**), which are intended to manage runoff and avoid substantial adverse changes in drainage and erosion. With the implementation of **MM 4.10-1** and **MM 4.10-2**, operation and maintenance activities would have a less than significant impact on groundwater supplies or recharge.

Decommissioning

At the end of the project's operational life (35 years), the project components would be recycled following a predetermined Decommissioning Plan, as required by **MM 4.11-1** (see **Section 4.11**, *Land Use and Planning*). Because the water requirements for decommissioning are presently unknown, water demand is conservatively assumed to equal the demand for project construction of 55 AF. Decommissioning is anticipated to last approximately one year and require a total of 55 AF.

If any portion of the project site is decommissioned, it would be converted to other uses in accordance with the applicable land use regulations in effect at that time. It is anticipated that during project decommissioning, project structures that would not be needed for subsequent use would be removed from the project site. Decommissioning of the project would leave areas of pervious surfaces intact that would continue to absorb stormwater runoff and would thus not result in a significant reduction of groundwater infiltration rates. **MM 4.10-2** would further reduce potential impacts by requiring the preparation of a final hydrologic study and drainage plan, which would evaluate the changes to hydrology on-site and recommend measures to minimize potential increases in runoff from the project site. Adherence to the requirements of the approved final hydrologic study and drainage plan would minimize decommissioning impacts to groundwater recharge. Accordingly, project decommissioning would have a less than significant impact on groundwater supplies or recharge.

Total Project Water Supply

The total estimated project water demand was amortized over the estimated project life cycle (38 years) and over the SB 610 regulatory 20-year planning horizon. Based on this amortization, the total amortized annual water demand over the 20-year planning horizon is approximately 5.5 AFY, and 5.7 AFY over the project life cycle.

According to the project WSA, the Judgment limits the amount of groundwater that can be produced from the AVGB without replacement. Groundwater production is actively managed by the Watermaster to ensure sustainability of the basin groundwater supplies. Because the project would purchase existing production rights and groundwater production is currently below the native safe yield (and has been for multiple years), there is sufficient groundwater available to satisfy the project demand and all other groundwater uses during normal, single dry, and multiple dry years over a 20-year projection and the life of the project. Therefore, the project is not anticipated to substantially decrease groundwater supplies or impede sustainable groundwater management of the basin; impacts would be less than significant.

The FVGB is not adjudicated and is designated by DWR as low priority. The FVGB Groundwater Management Plan evaluated projected water demands in the basin, including groundwater demands, in five-year increments through 2040 under four potential scenarios. Based on current and projected groundwater demands assuming planned growth, there is sufficient groundwater available in the FVGB to satisfy the project demand and all other groundwater uses during normal, single-dry, and multiple-dry years over a 20-year project and the life of the project. If medium or heavy agricultural growth were to occur in the basin,

groundwater demand could exceed the annual average recharge rate and potentially lead to overdraft; however, there are currently no plans to increase agriculture in the FVGB, and these hypothetical scenarios were analyzed to simply illustrate how additional agricultural growth would impact the basin to inform future decisions for managing the basin sustainably.

AVEK has sufficient water supplies to serve current and future water demands within its service area. AVEK has historically had more SWP water available for delivery than typically purchased by customers. AVEK receives an annual allocation of SWP water and also has banked SWP water available in the event demands exceed the annual allocation. AVEK's demand prediction in its 2020 Urban Water Management Plan accounts for development and population growth within its service area. Based on AVEK's water supply and demand comparison as a public water supplier for the project area and retail water agencies in the region, sufficient supplies exist to serve future water demands of development intensities consistent with the project during normal, single-dry, and multiple-dry years of a 20-year projection, in addition to existing and planned future uses of the water supply.

In addition, implementation of **MM 4.17-1** (see **Section 4.17**, *Utilities and Service Systems*) would require the project proponent to provide documentation demonstrating that sufficient water supplies have been secured and will be available for project construction, operation, and decommissioning during normal, single-dry, and multiple-dry years. Accordingly, the project would not substantially decrease groundwater supplies or impede sustainable groundwater management of the basin.

SCE Whirlwind Substation Upgrades

The water demand for the SCE Whirlwind Substation upgrades was included in the WSA projections and represents a small portion of the project's overall demand. Consequently, this demand would not impede sustainable groundwater management.

The upgrades would primarily occur within an already developed facility, with minimal new or expanded impervious surfaces. SCE would comply with existing adopted BMPs and minimization measures, along with all applicable federal and State laws and regulations during construction, including those regulations that relate to groundwater supplies and recharge, which would help to minimize any potential interference with the site's groundwater recharge capabilities. With the implementation of BMPs, the SCE Whirlwind Substation upgrades would not substantially decrease groundwater supplies or interfere with groundwater recharge in a manner that would substantially impede sustainable groundwater management of the basin. Thus, the impacts caused by the upgrades would be less than significant.

Mitigation Measures

Implementation of **MM 4.10-1, MM 4.10-2,** and **MM 4.17-1** (see **Section 4.17**, *Utilities and Service Systems*) would be required.

Level of Significance

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 that would result in substantial erosion and/or sedimentation on-site or off-site.

The project site is relatively flat, generally undeveloped, and does not encompass surface water bodies, such as creeks, streams, or rivers. Due to the relatively low topographic relief, lack of development, loose sandy soils, and minimal vegetation, most of the drainage flow originating on the project site infiltrates into the on-site soils. While there are no creeks, streams, or rivers on-site, there are seven potentially jurisdictional surficial drainages on-site, including five within the project site and two within the tie-line corridors, as described in the *Jurisdictional Waters Delineation Report* prepared for the project (**Appendix C9**).

These potentially jurisdictional waters are characterized as ephemeral drainage features with surface flows expected only in direct response to precipitation events. The drainage features generally convey flows from the west and north of the site toward the southeast. As discussed in **Section 4.4**, *Biological Resources*, a total of 1.03 acres of these jurisdictional features are potentially subject to the RWQCB's jurisdiction, and approximately 4.16 acres are potentially subject to CDFW's jurisdiction. However, not all of the survey area would be disturbed. The project would impact approximately 0.86 acres potentially subject to RWQCB's jurisdiction and 3.55 acres potentially subject to CDFW's jurisdiction.

Construction

While the on-site jurisdictional drainage features have been avoided to the maximum extent practicable, the project's construction activities, such as clearing, grubbing, and grading, would alter them. These activities are expected to alter the existing on-site drainage patterns and flow paths, potentially affecting the way stormwater from upgradient areas flows onto the site, or how stormwater flows off-site during major storm events. These changes have the potential to alter drainage patterns such that substantial erosion and/or on-site or off-site sedimentation could be exacerbated during a rain event.

Adhering to the requirements of the Kern County Grading Code and the resulting measures designed to prevent erosion and control on-site drainage would minimize the potential for sedimentation and subsequent degradation of stormwater. Further, the project would prepare and implement a SWPPP pursuant to the Construction General Permit consistent with **MM 4.10-1**. BMPs identified in the SWPPP would include methods for erosion and sediment control, such as minimizing disturbance, stabilizing exposed soils, managing stockpiles, and maintaining drainage conveyance to prevent sediment from leaving disturbed areas during construction.

Additionally, implementation of **MM 4.4-19** and **MM 4.4-20,** outlined in **Section 4.4,** *Biological Resources,* would also ensure that necessary jurisdictional resource agency permits and agreements would be obtained, or evidence would be provided from the respective resource agency to the County that such an agreement or permit is not required to mitigate temporary and permanent impacts on jurisdictional waters.

Operation

Finish grading for the project is expected to consist of gentle slopes to ensure positive drainage and effective stormwater management. Additional stormwater controls would consist of shallow rip-rap-lined ditches, properly elevated driveways and fire lanes, as well as detention and retention ponds, as shown in **Figure 3-15,** *Proposed Grading Plan*.

Construction of detention basins would provide areas of pervious surfaces to absorb stormwater runoff. These include retention volume design specifications based on anticipated impervious coverage. The design volume of basins was calculated based on the Intermediate Storm Design Discharge five-day storm, sourced from the Kern County Engineering Bulletin 11-02. By constructing detention basins, the project is not expected to result in substantial erosion and/or sedimentation on or off the project site. Furthermore, in accordance with **MM 4.10-2**, the project would be required to prepare a Final Drainage Plan that includes stormwater modeling and evaluation of potential erosion and sedimentation. Recommendations from the Final Drainage Plan would be incorporated into the final project design to minimize flow concentrations and manage flow depths and velocities. The design and plan review process would ensure that the final grading plan includes drainage structures and facilities, such that stormwater runoff rates do not exceed existing rates, thus avoiding potential on- or off-site erosive scour and associated sedimentation of downstream drainages.

Decommissioning

Decommissioning activities may slightly alter the existing drainage pattern of the project site. Although minimal changes to water flows would be anticipated, decommissioning activities have the potential to alter drainage patterns such that erosion and sedimentation could be exacerbated on-site or off-site during a rain event, leading to a potentially significant impact. In accordance with **MM 4.10-2**, the project would be subject to a Final Drainage Plan that would further minimize the potential for increased erosion and sedimentation. Through conformance with all requirements contained within the Kern County Grading Ordinance and implementation of **MM 4.10-1** and **MM 4.10-2**, long-term effects on drainage patterns and the potential to result in substantial erosion and sedimentation on- or off-site would be less than significant.

SCE Whirlwind Substation Upgrades

Ground disturbances associated with the SCE Whirlwind Substation upgrades would primarily occur within the existing SCE Whirlwind Substation property boundaries; however, construction of tie-line structures and telecommunication infrastructure would also be required within the two 100-foot tie-line corridors. Construction, grading, and excavation activities would be required for the installation of these facilities. Although grading activities would temporarily affect runoff patterns and sediment concentrations, these changes would be minor and localized, and construction activities would not substantially increase the rate or amount of surface runoff. SCE would implement applicable stormwater BMPs and comply with all applicable State and federal laws and regulations related to stormwater management to further minimize the less than significant impact. Given the limited extent of disturbance and the implementation of stormwater and drainage controls, impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.4-19** and **MM 4.4-20** (see **Section 4.4,** *Biological Resources*), **MM 4.10-1,** and **MM 4.10-2** would be required.

Level of Significance after Mitigation

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, in a manner that would result in flooding on-site or off-site.

The rate and amount of surface runoff are determined by multiple factors, including topography, the amount and intensity of precipitation, the amount of evaporation occurring in the watershed, and the amount of precipitation and water that infiltrates groundwater.

Construction

As discussed under Impact 4.10-3 above, clearing, grubbing, grading, and installation of project facilities would alter existing on-site drainage patterns and flow paths across the site, including the seven mapped ephemeral drainage features. In addition, the eastern portion of the project site is located within FEMA Flood Zone A (100-year flood hazard area). Infrastructure proposed as part of the project, including the battery energy storage arrays, operation and maintenance buildings, substations, and transmission infrastructure, would not be sited within the FEMA 100-year flood hazard area. The only permanent structure that is sited within the flood zone is an incident command post, which includes a water tank, pumphouse, and well. Other minimal improvements, such as a detention basin, roadways, fencing, and security features, are proposed within the 100-year flood hazard area. These changes could increase the occurrence of on-site or off-site flooding, leading to a potentially significant impact.

Adhering to the requirements of the Kern County Grading Code and Kern County Floodplain Management Ordinance designed to prevent erosion and control drainage on-site would minimize the potential sedimentation and subsequent degradation of stormwater. Further, the project would prepare and implement a SWPPP pursuant to the Construction General Permit consistent with **MM 4.10-1**. **MM 4.10-2** also requires that grading for the project facilities does not alter the ground surface such that the extent of flooding during storm events is substantially increased. BMPs identified in the SWPPP would include methods for erosion and sediment control, such as minimizing disturbance, stabilizing exposed soils, managing stockpiles, and maintaining drainage conveyance to prevent sediment from leaving disturbed areas during construction. By adhering to all requirements outlined in the Kern County Grading Ordinance and Kern County Floodplain Ordinance and implementing **MM 4.10-1** and **MM 4.10-2**, the effects on drainage patterns and the potential for flooding from construction on the project, both on-site and off-site, would be less than significant.

Operations

As discussed in Impact 4.10-3 above, finish grading would consist of gentle slopes to ensure positive drainage and effective stormwater management. Additional stormwater controls would consist of shallow rip-rap-lined ditches, properly elevated driveways and fire lanes, as well as detention and retention ponds, as shown in **Figure 3-15,** *Proposed Grading Plan*. Construction of detention basins would provide areas of pervious surfaces to absorb stormwater runoff, minimizing the risk of flooding downstream.

As discussed in the Preliminary Hydrology Study (**Appendix H**), a flood-depth model for the existing conditions and project conditions during a 100-year, 24-hour storm was conducted. The modeling results demonstrate that the project's depths and velocities at the discharge points remain within the same range as those associated with the existing conditions. By implementing appropriately sized conveyance systems and constructing detention and retention basins, the project is not expected to result in a material change to flows or downstream drainage. Furthermore, the Preliminary Hydrology Study also demonstrated that the

project meets the Kern County Floodplain Management Ordinance. Impacts associated with on- and off-site flooding are less than significant.

While the impact from project operations is considered less than significant, implementation of **MM 4.10-1** and **MM 4.10-2** would further reduce impacts by implementing stormwater BMPs and preparing a Final Drainage Plan before issuance of a grading permit. **MM 4.10-2** also requires that grading for the project facilities does not alter the ground surface such that the extent of flooding during storm events is substantially increased. Therefore, impacts related to flooding would be less than significant.

Decommissioning

Decommissioning the project may slightly alter the existing drainage pattern. Although minimal changes to water flows are anticipated, the decommissioning activities could potentially modify drainage patterns, exacerbating flooding during rain events. The project site is relatively flat and would remain so after decommissioning. In accordance with **MM 4.10-2**, the project is required to prepare a Final Drainage Plan designed to further minimize the potential for increased flooding associated with implementation of the project.

By adhering to all requirements outlined in the Kern County Grading Ordinance and implementing **MM 4.10-1** and **MM 4.10-2**, the long-term effects on drainage patterns and the potential for flooding from decommissioning the project, both on- and off-site, are expected to be less than significant.

SCE Whirlwind Substation Upgrades

All SCE work would occur within Flood Zone "X". Ground disturbances would occur within the property boundaries of the SCE Whirlwind Substation and within the two 100-foot-wide tie-line corridors. Tie-line structures and telecommunication infrastructure would be installed within these tie-line corridors, requiring clearing, grading, and excavation activities for structure footings and conduit installations. Grading would be minor, consisting of smoothing needed for access and work areas at approximate existing grades. Excavations would be backfilled and compacted. While runoff patterns and concentrations could be altered by grading activities, such changes would be minimal. SCE would comply with all applicable, existing BMPs and adopted minimization measures, along with all applicable federal and State laws and regulations, including those related to flooding. As such, impacts related to flooding on- or off-site would be less than significant.

Mitigation Measures

Implementation of **MM 4.10-1** and **MM 4.10-2** would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.10-5: The project would create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

The project site is located in a relatively remote, rural area with no existing or planned stormwater infrastructure. As previously discussed, the project area is drained by natural channels.

During construction, operation and maintenance, and decommissioning, the project would adhere to all applicable Kern County Public Works Department stormwater requirements. Any temporary construction- and decommissioning-related pollutant sources, such as disturbed soils and equipment fluids, would be managed through implementation of BMPs identified in the SWPPP (**MM 4.10-1**). The operation of the project would include capturing runoff from the added impervious area with the implementation of permanent stormwater control measures, such as on-site detention basins. All requirements would be outlined in the Final Drainage Plan (**MM 4.10-2**) and would ensure that the project effectively manages runoff rates and water quality. The requirements would also ensure that the proposed design features are appropriately sized for storm events per the final hydrology study performed for the site. No other discharges would be necessary that might otherwise affect water quality. For all of these reasons, impacts related to stormwater drainage systems would be less than significant.

SCE Whirlwind Substation Upgrades

The SCE Whirlwind Substation upgrades would occur within the existing developed Whirlwind Substation footprint and would not rely on, or discharge to, a municipal storm drain system. The impervious area added by foundations for the proposed tie-lines and Whirlwind Substation interconnection facilities would be negligible compared to the overall drainage area. The SCE upgrades are only a portion of the overall project and would generally occur within or adjacent to existing transmission structures that would not impact, impede, or redirect flood flows. SCE would comply with all applicable federal and State laws and regulations and would implement existing BMPs and adopted minimization measures, including those related to drainage runoff. Accordingly, the SCE upgrades would not exceed stormwater drainage capacity or create substantial additional sources of polluted runoff, and impacts would thus be less than significant.

Mitigation Measures

Implementation of **MM 4.10-1** and **MM 4.10-2** would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.10-6: The project would place structures within a 100-year flood hazard area that would impede or redirect flood flows.

As shown in **Figure 4.10-2**, *Federal Emergency Management Agency Flood Insurance Rate Map*, the easternmost portion of the project site is within "Zone A," which is defined by FEMA as an area subject to flooding during a 100-year flood event. However, the remainder of the project site is located within "Zone X", which indicates areas that are outside the 100-year flood zone and have minimal flood hazard. Due to the project location on the lower portion of coalesced alluvial fans, flooding, when it occurs, is shallow with low flow velocities.

Although the project proposes improvements within the 100-year flood zone, construction and decommissioning activities, such as grading or excavation, would be minimized and designed to ensure no net fill and to avoid impeding or redirecting flood flows. Although a 3-acre construction laydown area would be sited within the 100-year flood hazard area, it would be maintained approximately at the existing grade so it would not impede or redirect flood flows if flooding were to occur. Project facilities, such as the battery energy storage arrays, operation and maintenance buildings, substations, and transmission infrastructure, would not be sited within a FEMA 100-year flood hazard area. The only permanent structure that is sited within the flood zone is an incident command post, which includes a water tank, pumphouse,

and well. Other minimal improvements, such as a detention basin, roadways, fencing, and security features, are proposed within the 100-year flood hazard area.

If not properly designed, the project could result in potentially significant impacts related to impeding or redirecting flood flows. However, the project would be required to comply with Kern County Code Article III, Section 17.48.270, which specifies that all new construction must be designed to have a foot of freeboard clearance above the base flood elevation and requires that water surface elevations during flood events would not be increased by more than 1 foot. The project's compliance with this requirement would be demonstrated in the Final Drainage Plan associated with the implementation of **MM 4.10-2**. Furthermore, the project would implement a SWPPP per **MM 4.10-1**. The SWPPP would include BMPs to preserve existing vegetation and topography to the maximum extent feasible to minimize the risk of flooding.

Potential impacts during project decommissioning would be similar to those during construction. A Decommissioning Plan would be prepared and implemented at the end of the project's operational life (35 years). The Decommissioning Plan would specify all requirements necessary for compliance with applicable local, state, and federal regulations. Thus, impacts on flood flows would be less than significant.

SCE Whirlwind Substation Upgrades

Portions of the SCE Substation are located within the 100-year flood zone. However, all proposed upgrades to the Whirlwind Substation, including the tie-lines, would be located in areas with minimal flood hazard. SCE would implement BMPs that would minimize alteration of existing drainage patterns and minimize or manage flow concentration to minimize any potential flooding or the redirection of flood flows. Thus, impacts on flood flows would be less than significant.

Mitigation Measures

Implementation of **MM 4.10-1** and **MM 4.10-2** would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.10-7: The project would result in a flood hazard, tsunami, or seiche zone, and risk release of pollutants due to project inundation.

The eastern portion of the project site is within a 100-year flood hazard area (Zone A), while other portions of the site are within areas designated as having minimal flood hazard (Zone X). Flooding within Zone A could encompass the westernmost parts of the site during a 100-year flood event. As discussed more thoroughly in **Section 4.9**, *Hazards and Hazardous Materials*, the project is not expected to include the use, storage, or disposal of significant quantities of hazardous materials. Nevertheless, the project would utilize limited hazardous materials during construction, operations, and decommissioning (e.g., fuels, lubricants, oils, similar materials associated with equipment and maintenance). If not properly managed, inundation could mobilize these materials and result in localized pollutant releases.

Implementation of **MM 4.9-1** would require the project proponent to provide a Hazardous Materials Business Plan that would delineate hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated

hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies, including fires.

Implementation of **MM 4.9-1** would minimize impacts and risk of release of pollutants due to project inundation. Per **MM 4.10-2**, a Final Drainage Plan would be prepared in accordance with the Kern County Development Standards and Kern County Code of Building Regulations. The Final Drainage Plan would include measures to offset increases in stormwater runoff that would result from implementation of the project, as well as design measures to minimize or manage flow concentration and changes in flow depth or velocity. The Floodplain Management Ordinance outlines floodplain development requirements to avoid the potential for flood damage and to prevent the release of pollutants into the environment.

A tsunami is a series of ocean waves generated by sudden displacements in the sea floor, landslides, or volcanic activity. A seiche is a large wave generated in an enclosed body of water in response to ground-shaking. The project site is more than 100 miles from the nearest coastline, within a valley surrounded by mountainous terrain. Additionally, the project is not within a designated seiche zone, nor are there significant bodies of water uphill of the project site. Therefore, the risk for a tsunami or seiche in the project area is very low, and there would be little or no chance for an impact involving the release of pollutants during such events.

With the implementation of **MM 4.9-1** and **MM 4.10-2**, the project's potential to result in a risk of release of pollutants due to project inundation from flood events, tsunamis, or seiches would be less than significant.

SCE Whirlwind Substation Upgrades

The SCE Whirlwind Substation is located more than 100 miles from the nearest coastline and is not within a seiche zone, nor are there significant bodies of water uphill of the project site, and the site is located more than 100 miles from the ocean. Thus, there is no potential for pollutant release from the project from a tsunami or seiche. Portions of the SCE Substation are located within the 100-year flood zone. However, all proposed upgrades to the Whirlwind Substation, including the tie-lines, would be located in Flood Zone "X", which indicates the area is of minimal flood hazard. It is expected that the upgrades would involve the limited use and storage of hazardous materials. If the site were to be inundated during a flood event, improperly managed hazardous materials could pose a risk of pollutant release. The SCE Whirlwind Substation upgrades are only a portion of the overall project, and SCE would comply with all applicable existing BMPs, adopted minimization measures, and federal and State laws and regulations, including those regulations related to risk of pollutant release due to project inundation. As such, impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.9-1** (see **Section 4.9,** *Hazards and Hazardous Materials*) and **MM 4.10-2** would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.10-8: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

The project site is located within the South Lahontan RWQCB and is subject to the applicable requirements of the Lahontan RWQCB Plan in accordance with the Porter-Cologne Water Quality Control Act. The project is not subject to a sustainable groundwater management plan and, therefore, is not under a specific GSP area. Although the project is not within a GSP-required area, the project site is within the AVGB, which is under an existing adjudication. The project would include required BMPs and drainage control requirements that are consistent with the Lahontan RWQCB Plan.

Although not currently planned, the project could obtain water from the FVGB using a private well (or wells) or by purchasing it from a local retailer, such as Mojave Public Utility District. The FVGB is designated as a low-priority basin under SGMA. Thus, the agencies within the region are not subject to SGMA requirements for the groundwater basin at this time and are not required to prepare and implement a sustainable groundwater management plan. Although a plan is not required, California City, Mojave Public Utility District, and other regional stakeholders have partnered in the development of a Groundwater Management Plan to promote regional groundwater sustainability. Overall, the basin has been able to provide sufficient supply to meet demands, and the Groundwater Management Plan targets to define the basin's safe yield by 2027 and to manage the basin such that the 10-year average change in groundwater levels is zero. The WSA for the project determined, based on current and projected groundwater demands assuming planned growth, that there is sufficient groundwater available in the FVGB to satisfy the project demand, and all other groundwater uses during normal, single-dry, and multiple-dry years over a 20-year project and the life of the project.

As discussed in Impact 4.10-2, project construction, operation, and decommissioning would not be anticipated to substantially decrease groundwater supplies or interfere with groundwater recharge such that the project impedes sustainable groundwater management of the basin. The project plans to purchase production rights of sufficient volume for the project from an existing water rights holder who holds 294 AF of overlying production rights and 2,432 AF of carryover water. Specifically, the project would purchase 3 AF of permanent production rights and 65 AF of carryover water rights from the year 2023. Implementation of **MM 4.17-1** (see **Section 4.17**, *Utilities and Service Systems*) would further ensure sufficient water supplies would be available for the project. With the implementation of **MM 4.17-1**, the project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan. Accordingly, impacts would be less than significant.

SCE Whirlwind Substation Upgrades

The water demand for the SCE Whirlwind Substation upgrades was included in the WSA projections and represents a small portion of the overall demand. Consequently, this demand would not impede sustainable groundwater management. SCE would implement BMPs associated with water quality control plans and sustainable groundwater management plans. As such, impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.17-1** (see **Section 4.17**, *Utilities and Service Systems*) would be required.

Level of Significance

Impacts would be less than significant.

4.10.5 Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for the cumulative analysis is the Antelope Valley Hydrologic Unit (HU) in the southwestern corner of the South Lahontan Hydrologic Region. The Antelope Valley is a recognized groundwater basin, and use of the basin as the geographic scope allows for analysis of impacts in consideration of the local groundwater supply. 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 geographic scope used to identify projects listed in **Table 3-4,** *Cumulative Projects List*, is a smaller geographic scope than the entire Antelope Valley HU, but this smaller area is experiencing development of a type and density that is representative of the hydrological unit as a whole.

Similar to the project, reasonably foreseeable projects included in the evaluation of cumulative impacts would not discharge to Waters of the United States because they are located within the Antelope Valley, a closed basin with no outlet to the Pacific Ocean. Any reasonably foreseeable projects that would not retain all runoff on-site would be required to prepare a SWPPP, just as with the project under **MM 4.10-1**. Any prepared SWPPP would include appropriate BMPs designed to prevent the mixture of sediment and other pollutants with stormwater and degrading water quality. In addition, the project would implement a Hazardous Materials Business Plan pursuant to **MM 4.9-1**, which requires the appropriate handling, storage, and transport of hazardous materials to prevent impacts on stormwater and water quality. Other cumulative projects involving hazardous materials would also be required to comply with hazardous material regulations. Therefore, cumulative impacts associated with water quality degradation would not be cumulatively considerable, and the project would not contribute to a cumulative impact on water quality.

With regard to water supply, the project is expected to source its water supply from the AVGB; however, implementation of **MM 4.17-1** (**Section 4.17**, *Utilities and Service Systems*) would further ensure sufficient water supplies would be available for the project. The project site and all other cumulative projects are within the adjudicated area of the AVGB. The Judgment established a native safe yield of 82,300 AFY and a total safe yield of 110,000 AFY. The Judgment limits the amount of groundwater that can be produced without replacement. Groundwater production is actively managed by the Watermaster, ensuring the sustainability of the groundwater basin supplies. The project and all other cumulative projects would be required to identify an appropriate and available water supply source. If other projects plan to source water from the adjudicated portion of the AVGB, they would also be required to purchase production rights or obtain the necessary approvals from the Watermaster. The Watermaster is charged with administering the adjudicated water rights and managing the groundwater resources within the area of adjudication. With the implementation of **MM 4.17-1**, the project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan. Therefore, the project would not contribute to a cumulative impact on water use or groundwater management.

With respect to erosion, drainage, and flooding, the project would implement **MM 4.10-1** and **MM 4.10-2**, which would minimize direct impacts on erosion, drainage, and flooding. It is anticipated that other cumulative projects would be required to implement similar measures to minimize erosion, drainage, and flooding-related impacts. Additionally, drainage-related impacts from cumulative projects would be primarily localized. Therefore, cumulative impacts on erosion, drainage, and flooding are not anticipated to be cumulatively considerable. The project would not contribute to a cumulative impact.

SCE Whirlwind Substation Upgrades

Ground disturbances associated with SCE construction would occur within the previously developed footprint of the Whirlwind Substation and within the two 100-foot tie-line corridors, including tie-line structures and telecommunication infrastructure. Proposed construction activities associated with the SCE Whirlwind Substation and tie-lines have the potential to degrade surface or groundwater quality.

The Whirlwind Substation upgrades to accommodate the interconnection would occur within an already developed facility, without changes to the overall grading or drainage design and with minimal new impervious surfaces. Tie-line structures and telecommunication infrastructure would be installed within these tie-line corridors, requiring clearing, grading, and excavation activities for structure footings and conduit installations. Grading would be minor, consisting of smoothing needed for access and work areas at approximate existing grades. Excavations would be backfilled and compacted. While runoff patterns and concentrations could be altered, such changes would be minimal. SCE would implement BMPs during construction and decommissioning activities to address stormwater runoff and erosion, minimize alterations to existing drainage patterns, reduce flow concentrations and potential flooding, and ensure the proper handling, storage, transport, and disposal of hazardous materials. Similarly, cumulative projects would be required to implement applicable BMPs, permit conditions, and/or mitigation measures to minimize impacts related to erosion, drainage, flooding, and water quality. In addition, cumulative projects involving hazardous materials would be required to comply with all applicable regulations governing hazardous materials.

SCE's water demand also represents a small portion of the overall project demand and was accounted for in the project WSA, such that it would not impede sustainable groundwater management. All other cumulative projects would be required to identify an appropriate water supply source and obtain all necessary approvals. Therefore, the SCE Whirlwind Substation upgrades would not have a cumulatively considerable impact on hydrology or water quality.

Mitigation Measures

Implementation of **MM 4.4-4** (see **Section 4.4,** *Biological Resources*), **MM 4.9-1** (see **Section 4.9**, *Hazards and Hazardous Materials*), **MM 4.10-1**, **MM 4.10-2**, and **MM 4.17-1** (see **Section 4.17**, *Utilities and Service Systems*) would be required.

Level of Significance after Mitigation

Cumulative impacts would be less than significant.

Section 4.11

Land Use and Planning

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Section 4.11
Land Use and Planning

4.11.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the affected environment and regulatory setting for land use and planning. It also describes the impacts related to land use and planning that would result from implementing the project and identifies mitigation measures to avoid, minimize, and/or mitigate those potential impacts, where applicable.

The information in this section is based on a review of the project's consistency with applicable environmental-related requirements of local and regional land use plans and regulations, such as the Kern County General Plan (KCGP), Willow Springs Specific Plan, and the Kern County Zoning Ordinance.

4.11.2 Environmental Setting

On-Site Land Uses

The project site is at the northern edge of the Antelope Valley in Kern County, California. The site is situated approximately 8 miles west of the unincorporated community of Rosamond and approximately 17 miles south of the incorporated City of Tehachapi. The project site is also approximately 15 miles west of State Route (SR-) 14 and 6 miles north of SR-138; it comprises 10 parcels totaling approximately 120 acres. The project site is generally undeveloped except for high voltage transmission infrastructure, communications infrastructure, and unpaved roads. Elevations across the project site range from approximately 2,764 to 2,827 feet above mean sea level.

As discussed in **Section 4.2**, *Agriculture and Forestry Resources*, the project site, including the Whirlwind Substation and tie-line corridors, 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 or Natural Vegetation. No project parcels are subject to a Williamson Act Land Use contract; however, the project is within the Kern County Agricultural Preserve Number 24. A Petition of Exclusion to remove the project site from the Agricultural Preserve would not be required by Kern County (County), as battery energy storage system (BESS) facilities are authorized within the A District with approval of a Conditional Use Permit (CUP) pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance.

As discussed in **Section 4.10**, *Hydrology and Water Quality*, the easternmost part of the project site is designated as Flood Zone "A," which is a Federal Emergency Management Agency (FEMA) designation indicating that the area could flood during a 100-year flood event. The proposed BESS facility is designed to be located outside of this flood zone and entirely within Flood Zone "X," which indicates areas of minimal flood hazard. There are no jurisdictional wetlands on the project site, but there are ephemeral drainages subject to the jurisdiction of the Regional Water Quality Control Board and California Department of Fish and Wildlife (CDFW).

As discussed in **Section 4.12,** *Mineral Resources*, no portion of the project site, including the Whirlwind Substation and tie-line corridors, is within land designated as Map Code 8.4 – Mineral and Petroleum or zoned as NR (Natural Resources) or PE (Petroleum Extraction). Furthermore, the project site is not identified as a mineral resource zone by the DOC's State Mining and Geology Board. Based on a review of records maintained by the DOC's Geologic Energy Management Division, there are no oil wells or extraction sites within or immediately adjacent to the project site.

The project site is not located within an area governed by the Kern County Airport Land Use Compatibility Plan, and the closest airport is a private landing strip more than 12 miles to the east.

The project site is located within the administrative boundaries of the KCGP and Willow Springs Specific Plan (Kern County 1992, 2009). As shown in **Table 4.11-1**, *Project Site and Surrounding Land Uses*, the project parcels are zoned A (Exclusive Agriculture) and E (Estate). Many project parcels also contain one or more of the following combining districts: Floodplain Secondary (FPS), Wind Energy (WE), and Residential Suburban (RS). The project site would be rezoned to A, with the exception of those portions that are already in the A Zone District. According to the Kern County Zoning Ordinance Section 19.12.030 G, BESS facilities, when not accessory to a permitted or conditionally permitted use, are permitted within the A Zone District subject to the approval of a CUP.

Surrounding Land Uses

As listed in **Table 4.11-1**, *Project Site and Surrounding Land Uses*, the generally undeveloped land surrounding the project site is used primarily for renewable energy development, transmission and communications infrastructure, sparse rural residences, and agriculture. Other existing developments in the project vicinity include paved and unpaved roads and the Southern California Edison (SCE) Whirlwind Substation directly to the south. The project site is approximately 8 miles west of the unincorporated community of Rosamond, approximately 17 miles south of the incorporated City of Tehachapi, and 6 miles north of SR-138.

TABLE 4.11-1: PROJECT SITE AND SURROUNDING LAND USES

Location	Existing Land Use	Existing General Plan Map Code Designation	Existing Zoning Classification
Project Site	Undeveloped/vacant land; transmission and communications infrastructure	3.3, 4.1, 5.6, 5.7, 5.75, 5.8	E (2 ½) RS, E (2 ½) RS FPS, E (5) RS, E (10) RS, E (20) RS FPS, A WE
North	Undeveloped/vacant land; transmission and communications infrastructure; wind turbines	4.1, 5.75, 5.8	E (10) RS, E (20) RS FPS, A WE, A WE FPS
East	Undeveloped/vacant land; sparse rural residences	4.1, 5.5, 5.6, 5.8	E (20) RS FPS, E (2 ½) RS FPS
South	Whirlwind Substation; transmission and communications infrastructure; undeveloped/vacant land; solar energy developments; agriculture	4.1, 3.3, 5.6, 5.7, 6.2	E (2 ½) RS, E (2 ½) RS FPS
West	Undeveloped/vacant land; transmission infrastructure; proposed Keyhole Wind Project	4.1, 3.3, 5.7, 8.5	E (5) RS, E (10) RS, A, A GH

Kern County General Plan Map Code Designation:

3.3 (Other Facilities)
4.1 (Accepted County Plan Areas)
5.6 (Minimum 2.5 Gross Acres/Unit)
5.7 (Minimum 5 Gross Acres/Unit)
5.75 (Minimum 10 Gross Acres/Unit)
5.8 (Minimum 20 Gross Acres/Unit)
6.2 (General Commercial)

Kern County Zoning District:

A WE (Exclusive Agriculture, Wind Combining District)
A WE FPS (Exclusive Agriculture, Wind Combining District, Floodplain Secondary Combining District)
A GH (Exclusive Agriculture, Geologic Hazard Combining District)
E(2½) RS (Estate 2.5 Acres, Residential Combining District)
E(2½) RS FPS (Estate 2.5 Acres, Residential Combining District, Floodplain Secondary Combining District)
E(5) RS (Estate 5 Acres, Residential Combining District)
E(10) RS (Estate 10 Acres, Residential Combining District)
E(20) RS FPS (Estate 20 Acres, Residential Combining District, Floodplain Secondary Combining District)

4.11.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

Various state agencies have jurisdiction over local agencies and have plans and programs that apply to the project site, including but not limited to, the following:

- California Air Quality Plans
- California State Implementation Plans
- PM_{10} Maintenance Plan
- $PM_{2.5}$ Plans
- Air Quality Conformity Determination for Transportation Plans
- CDFW Recovery and Habitat Plans for Endangered Species

Information on these plans can be found in **Section 4.4** *Biological Resources*, **Section 4.3**, *Air Quality*, **Section 4.8**, *Greenhouse Gases*, and **Section 4.10**, *Hydrology and Water*, of this Draft EIR.

Regional

Various regional agencies have plans and programs that apply to the project site, including but not limited to, the following:

- Eastern Kern Air Pollution Control District Ozone Attainment Plans
- Kern Groundwater Authority Sustainability Plan
- Kern County Wells Program
- Antelope Valley Integrated Regional Water Management Plan
- Fremont Basin Integrated Regional Water Management Plan
- Fremont Valley Basin Groundwater Management Plan
- Kern County Integrated Waste Management Plan
- Kern County and Incorporated Cities Hazardous Waste Management Plan

Information on these plans can be found in **Section 4.3**, *Air Quality*, **Section 4.8**, *Greenhouse Gases*, and **Section 4.17**, *Utilities and Service Systems*, of this Draft EIR.

Kern Council of Governments

The Kern Council of Governments (Kern COG) is the regional transportation agency responsible for preparing the Regional Transportation Plan (RTP), which examines the long-range transportation challenges, opportunities, and needs of the County. The current (2022) 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 (Kern COG 2022). The 2022 RTP includes the following:

- A policy element that is shaped by goals, policies, and performance indicators
- A description of planning assumptions for regional growth and future needs for travel and goods movement
- A Sustainable Communities Strategy (SCS) that identifies planning strategies and illustrative development patterns that would reduce greenhouse gas emissions
- A plan of action for the region to meet identified transportation needs

The 2022 RTP/SCS was developed through a continuing, comprehensive, and cooperative planning process, and it facilitates effective coordination between local, regional, State, and federal agencies. The RTP/SCS must be updated every four years; Kern COG is currently preparing an update to the 2022 RTP/SCS, which is anticipated for adoption in 2026.

The 2022 RTP is primarily focused on achieving an integrated multimodal transportation network that will benefit the mobility, economy, health, and sustainability of the region. There are seven core goals that work to achieve the overall goal of the 2022 RTP; however, mobility is considered the plan's highest goal. The mobility goal and others are as follows:

1) Mobility – Improve the mobility of people and freight.
2) Accessibility – Improve accessibility to, and the economic well-being of, major employment and other regional activity centers.
3) Reliability/Safety – Improve the reliability and safety of the transportation system.
4) Efficiency – Maximize the efficiency and cost-effectiveness of the existing and future transportation system.
5) Livability/Quality of Life – Promote livable communities and satisfaction of consumers with the transportation system.
6) Sustainability – Provide for the enhancement and expansion of the system while minimizing effects on the environment.
7) Equity – Ensure an equitable distribution of the benefits among various demographic and user groups.

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to land use. The goals, policies, and implementation measures in the KCGP and the Willow Springs Specific Plan related to land use that are applicable to the project are provided below.

The Kern County Zoning Ordinance contains regulations which implement the provisions provided in the KCGP and Willow Springs Specific Plan. The most relevant regulations pertaining to BESS development are presented below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for land use applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

The KCGP 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 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. 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 KCGP maps for each section of Kern 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. The project site has the following KCGP map code designations:

- Special Treatment Areas
  - 4.1 (Accepted County Plan Areas) - A designation of areas for which specific land use plans have already been prepared and approved. These plans are accepted and incorporated by this reference and the respective land use map associated with each such plan is hereby adopted as the General Plan diagram for each such area. Each plan area is indicated on the General Plan map. See Appendix A of the KCGP for details of accepted County plans.
- Residential
  - 5.6 (Residential – Minimum 2.5 Gross Acres/Unit)) - constitutes a single family designation with rural service needs in the valley and desert regions, while in the mountain region residential uses of this density will require urban service provision.
  - 5.7 (5.0 Gross Acres/Dwelling Unit Maximum) - Designated in the outlying, less densely settled areas, often characterized with physical constraints and not requiring connections to public water and sewer infrastructure.
  - 5.75 (10.0 Gross Acres/DU Maximum) - Designated in the outlying, less densely settled areas, often characterized by areas with physical constraints and not requiring connections to public water and sewer infrastructure.
  - 5.8 (20+ Gross Acres/DU Maximum) - Designated in the outlying, less densely settled areas, often characterized by physical constraints and not requiring connections to public water and sewer infrastructure.

SCE Whirlwind Substation Upgrades

Parcels within the SCE Whirlwind Substation Upgrades are designated by the KCGP as 5.6 (Residential – Minimum 2.5 Gross Acres/Unit) land use designation. All 6.8 acres within SCE-owned property is designated as 5.6 Map Code designation.

Kern County General Plan and Willow Springs Specific Plan

The project site is located within unincorporated Kern County and the administrative boundaries of the KCGP and Willow Springs Specific Plan. The existing General and Specific Plan designations are shown in **Figure 3-4,** *Existing General Plan Map,* and listed in **Table 3-1**, *Project Assessor Parcel Number, Existing Specific Plan Designations, Existing Zoning Classifications, Proposed Zoning Classifications, Zone Variance Required, and Acreages.* In addition to the Land Use, Open Space, and Conservation Element, the KCGP includes other elements applicable to the project. Each element establishes goals, policies, and implementation measures that guide planning decisions for growth in unincorporated Kern County. The goals, policies, and implementation measures relevant to the project are listed below.

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

1.3 Physical and Environmental Constraints

Goals

Goal 1: To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.

Policies

Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained ((Map Code 2.1 (Seismic Hazard), Map Code 2.2 (Landslide), Map Code 2.3 (Shallow Groundwater), Map Code 2.5 (Flood Hazard), Map Codes from 2.6 – 2.9, Map Code 2.10 (Nearby Waste Facility), and Map Code 2.11 (Burn Dump Hazard) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.

Policy 3: Zoning and other land use controls will be used to regulate and, in some instances, to prohibit development in hazardous areas.

Policy 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.

Policy 10: The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.

Policy 11: Protect and maintain watershed integrity within Kern County.

Implementation Measures

Measure D: Review and revise the County's current Grading 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 I: Designated flood channels and water courses, such as creeks, gullies, and riverbeds, will be preserved as resource management areas or in the case of urban areas, as linear parks whenever practical.

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.

Goal 9: Serve the needs of industries and Kern County residents in a manner that does not degrade the water supply and the environment and protect the public health and safety by avoiding surface and subsurface nuisances resulting from the disposal of hazardous wastes, irrespective of the geographic origin of the waste.

Policies

Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.

Policy 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 E: Continue to establish coordinated efforts between government entities and private enterprise to identify and preserve unique scenic qualities of existing natural resources and to enhance the image of the County as a whole.

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.

Measure N: Secure complete and accurate information on all hazardous wastes generated, handled, stored, treated, transported, and disposed of within or through Kern County.

1.5 Special Treatment Areas

Goals

Goal 1: To recognize the validity of existing Specific Plan and Rural Community Plan decisions and to identify areas for which similar detailed planning efforts should be undertaken in the future so as to best meet the needs and concerns of local residents.

Policies

Policy 3: Rural communities are historically identifiable small-scale non-urban settlements located in outlying areas of the County which contain a mixture of residential and supportive commercial and other uses serving the community and the surrounding rural population. The County will ensure that the unique character of these communities is preserved and enhanced by recognizing the scale, density, size, and composition of development as summarized in Appendix B.

Implementation Measures

Measure A: Where particular policies or standards are not addressed within a special treatment area, the provisions of the KCGP shall govern.

1.9 Resources

Goals

Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.

Goal 2: Protect areas of important mineral, petroleum, and agricultural resource potential for future use.

Goal 3: To ensure that the development of resource areas minimizes effects of neighboring resource lands.

Goal 4: Encourage safe and orderly energy development within the County, including research and demonstration projects, and to become actively involved in the decision and actions of other agencies as they affect energy development in Kern County.

Goal 5: Conserve prime agricultural lands from premature conversion.

Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

Policies

Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of General Plan designation.

Policy 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 10. To encourage effective groundwater resource management for the long-term economic benefit of the County the following shall be considered:

a. Promote groundwater recharge activities in various Zone Districts.

b. Support for the development of Urban Water Management Plans and promote Department of Water Resources grant funding for all water providers.

c. Support the development of groundwater management plans.

d. Support the development of future sources of additional surface water and groundwater, including conjunctive use, recycled water, conservation, additional storage of surface water and groundwater and desalination.

Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.

Policy 12: Areas identified by the Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service) as having high range-site value should be conserved for Extensive Agriculture uses or as Resource Reserve, if located within a County water district.

Policy 14: Emphasize conservation and development of identified mineral deposits.

Policy 17: Lands classified as MRZ-2, as designated by the State of California, should be protected from encroachment of incompatible land uses.

Policy 19: Work with other agencies to define regulatory responsibility concerning energy-related issues.

Policy 20: Areas along rivers and streams will be conserved where feasible to enhance drainage, flood control, recreational, and other beneficial uses while acknowledging existing land use patterns.

Policy 25: Discourage incompatible land use adjacent to Map Code 8.4 Mineral and Petroleum areas.

Implementation Measures

Measure C: The County Planning Department will seek review and comment from the County Engineering and Survey Services Department on the implementation of the National Pollution Discharge Elimination System for all discretionary projects.

Measure F: Prime agricultural lands, according to the Kern County Interim-Important Farmland map produced by the DOC, which have Class I or II soils and a surface delivery water system shall be conserved through the use of agricultural zoning with minimum parcel size provisions.

Measure H: Use the California Geological Survey's latest maps to locate mineral deposits until the regional and statewide importance mineral deposits map has been completed, as required by the Surface Mining and Reclamation Act.

Measure K: Protect oilfields and mineral extraction areas through the use of appropriate implementing zone districts: A (Exclusive Agriculture), DI (Drilling Island), NR (Natural Resource), or PE (Petroleum Extraction).

1.10 General Provisions

Goals

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

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 (EIR) must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that:

(1) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and

(2) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.

Policy 21: The County shall support air districts efforts to reduce PM_{10} and $PM_{2.5}$ emissions.

Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, State, and local standards.

Implementation Measures

Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.

Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:

a. Minimizing Idling time.

b. Electrical overnight plug-ins.

Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:

a. Pave dirt roads within the development.

b. Pave outside storage areas.

c. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.

d. Use of alternative fuel fleet vehicles or hybrid vehicles.

e. Use of emission control devices on diesel equipment.

f. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces.

g. Provide bicycle lockers and shower facilities on site.

h. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).

i. The use and development of park and ride facilities in outlying areas.

j. Other strategies that may be recommended by the local Air Pollution Control Districts.

Measure J: The County should include PM_{10} control measures as conditions of approval for subdivision maps, site plans, and grading permits.

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

Policies

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.

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.

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 CEQA, to prevent the degradation of the watershed to the extent practical.

Implementation Measure

Measure Y: Promote efficient water use by utilizing measures such as:

i. Requiring water-conserving design and equipment in new construction;

ii. Encouraging water-conserving landscaping and irrigation methods; and

iii. Encouraging the retrofitting of existing development with water conserving devices.

1.10.7 Light and Glare

Policies

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

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

Implementation Measure

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

Chapter 2. Circulation Element

2.1 Introduction

Goals

Goal 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.

Goal 5: Maintain a minimum Level of Service (LOS) D for all roads throughout the County unless the roads are part of an adopted Community Plan or Specific Plan which utilizes Smart Growth policies that encourage efficient multi-modal movements (See Section 1.10.8).

2.3.3 Highway Plan

Goals

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 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 Measures

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.

Measure C: Conformance to alignment minimum design standards, where roadways that deviate from section and mid-section lines intersect those lines, must be reviewed and approved in conjunction with project adoption on an individual basis.

2.3.4 Future Growth

Goals

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 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 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 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

Goals

Goal 1: Provide a means for guiding decisions on vacating public roads.

Policies

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 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.

Implementation Measures

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 over-see the applicant's information gathering process and suggest alternatives if necessary.

2.3.10 Congestion Management Programs

State law requires that urbanized counties (including Kern County) prepare an annual congestion management program (CMP), and city/county eligibility for new gas tax subventions is contingent upon their participation in the CMP. To qualify for funding provided through the State Transportation Improvement Program or the Federal Transportation Improvement Program, the regional transportation agency must keep current a RTP that contains the CMP. Kern COG is currently preparing an update to the 2022 RTP/SCS, which is anticipated for adoption in 2026. Further, 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 to attain, and maintain, the State air quality standard.

Goals

Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern COG's CMP.

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 the Kern COG as the County's Congestion Management Agency (CMA).

Policy 2: The CMA is responsible for developing, adopting, and annually updating a CMP. The CMP is to be developed in consultation with, and with the cooperation of, the regional transportation agency (also the Kern COG), regional transportation providers, local governments, Caltrans, and the air pollution control district.

Implementation Measures

Measure A: The Kern COG 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.

2.4.10 Rosamond—Willow Springs

Goals

Goal 1: Prevent further crowding at the west entrance to Edwards Air Force Base by establishing additional or alternative access points as determined necessary by the Department of Defense.

Goal 2: To coordinate congestion management and air quality requirements and avoid multiple and conflicting requirements.

Goal 3: Prevent future circulation system overloads between Antelope Valley area, Los Angeles County on the south, and Mojave and Tehachapi areas on the north.

Policies

Policy 2: Kern County's major highway plans in Antelope Valley should be coordinated with Los Angeles County plans. Additional Freeway/Expressway connections would disperse future traffic.

Policy 4: The County should monitor development applications as they relate to traffic generation developed for this plan. If traffic resulting from projects such as General Plan amendment(s) would exceed current volume to capacity projections, mitigation is required if development causes roadways to fall below LOS D and LOS C for Caltrans roadways. 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. This is triggered if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build off-site transportation facilities. These enhancements would reduce traffic congestion impact.

Policy 6: Continue collecting the Traffic Impact fee to help construct needed circulation improvements.

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, and most of the trucks are interstate carriers. As such, interstate trucking is not under the direct control of Kern County. But as far as this traffic affects County residents and taxpayers, County officials 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: California Department of Transportation (Caltrans) should be made aware of the heavy truck activity on Kern County's roads.

2.5.4 Transportation of Hazardous Materials

Goals

Goal 1: Reduce risk to public health from transportation of hazardous materials.

Policy

Policy 1: The commercial transportation of hazardous material, identification and designation of appropriate shipping routes will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.

Policy 2: Kern County and affected cities should reduce use of County-maintained roads and city-maintained streets for transportation of hazardous materials.

Implementation Measures

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

3.2 Noise Sensitive Areas

Goals

Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.

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 E: Review discretionary development plans to ensure compatibility with adopted Airport Land Use Compatibility Plans.

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

Goals

Goal 1: Minimize injuries and loss of life and reduce property damage.

Goal 5: Ensure the availability and effective response of emergency services following a catastrophic event.

Goal 7: Ensure that adequate emergency services and facilities are available to the residents of Kern County through the coordination of planning and development of emergency facilities and services.

4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint

Implementation Measures

Measure A: All hazards (geologic, fire, and flood) should be considered whenever a Planning Commission or Board of Supervisor's action could involve the establishment of a land use activity susceptible to such hazards.

Measure F: The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by the Federal Emergency Management Agency (FEMA), shall be used as a source document for preparation of environmental documents pursuant to the 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

Policies

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 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.

Implementation Measure

Measure D: Discretionary actions will be required to address and mitigate impacts from inundation, land subsidence, landslides, high groundwater areas, liquefaction and seismic events through the CEQA process.

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 7: The processing of all discretionary energy project proposals shall comply with California Environmental Quality Act (CEQA) Guidelines directing that the environmental effects of a project must be taken into account as part of project consideration.

Policy 8: The County should work closely with local, state, and federal agencies to assure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts to fish, wildlife, and botanical resources, wherever practical.

Policy 9: The County should develop and implement measures which result in long-term compensation for wildlife habitat, which is unavoidably damaged by energy exploration and development activities.

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.

5.3.2 Kern County's Economic Dependence on the Oil Marketplace

Goal: To reduce the County's susceptibility to fluctuations in the petroleum production levels, and to encourage diversification of the economy.

Policies

Policy 4: The County should encourage the development of renewable energy industries to diversify the energy economy in Kern County.

5.4.7 Transmission Lines

Goals

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 entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). 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 KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for land use applicable to the project are provided below. The Willow Springs Specific Plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated in **Chapter 2**, *Introduction*, all goals, policies, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan. This plan was adopted in 1992 and contains goals, policies, and implementation measures that are compatible with those in the KCGP but tailored to the particular needs of the Willow Springs area (Kern County 1992). Included in the Willow Springs Specific Plan are 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: Non-jurisdictional, Physical Constraints, Public Facilities, Special Treatment Areas, Residential, Commercial, Industrial, and Resource.

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

General Goals

Goals

Goal 1: To ensure compatible uses of land consistent with both short- and long-term planning objectives of the County.

Goal 2: To promote a balanced and functional mix of land uses consistent with the goals and policies of the Kern County General Plan.

Goal 3: To achieve orderly growth and development within the plan area.

Goal 4: To achieve proper relationships and compatibility between various types of land uses.

Goal 5: To develop efficient density patterns.

Goal 6: To achieve land use patterns which will result in the most efficient use of and expansion of community facilities, including water, sewer, and school systems.

Goal 7: To promote land use patterns which reflect the opportunities and constraints set forth in other elements of the Specific Plan.

Goal 9: To achieve consistency between zoning and the policies and objectives of the Specific Plan.

Policies

Policy 2: Encourage only those industries that do not significantly increase air pollution levels.

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 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

Goals

Goal 1: To achieve compatibility of adjacent land uses within the plan area.

Goal 2: To establish zoning which is consistent with present and future intended land use.

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 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.

Implementation Measures

Measure 5: All grading and landform modifications shall be conducted in conformance with state-of-the-practice design and construction parameters. Typical standard minimum guidelines are set forth in Chapter 70 of the Uniform Building Code. All graded slopes shall be constructed so that the entire slope is stable.

Measure 6: Surface water runoff shall be controlled via storm drains or other positive surface water control structures.

Measure 8: Prior to grading permit issuance, evaluation of the collapse/hydroconsolidation potential and other engineering parameters of the various alluvial and lacustrine sediments and to provide appropriate remedial grading recommendations, a comprehensive geotechnical investigation, including exploratory drilling/trenching, sampling, and laboratory testing shall be required. Page 10 of Appendix B of the Environmental Impact Report (from the Willow Springs Specific Plan) provides recommended remedial measures that may be considered on an individual project basis.

Measure 11: Remedial grading and removal shall be performed on the sites which consist of erodible and collapsible soils prior to site development.

Measure 13: To minimize expansive soil conditions, complete avoidance or engineering design for correction of adverse conditions shall be required prior to building permit issuance on an individual project basis. Contained in Appendix B of the Environmental Impact Report (from the Willow Springs Specific Plan) "Soils and Geology Report" on page 12, provisions are recommended as remedial measures to lessen adverse conditions.

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 buffer, 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 prior to grading permit issuance.

Measure 17: Prior to tentative tract map approvals or additional development plan approvals, focused surveys shall be conducted by a qualified biologist (subject to the approval of the California Department of Fish and Game and the U.S. Fish and Wildlife Service) to establish the presence or absence of sensitive plant or wildlife species on the tract. Should sensitive species be present, applicable mitigation shall be implemented per federal, State, and local Endangered Species Protection regulations, as determined necessary by the County Agricultural Commissioner.

Measure 18: 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.

Measure 19: Project site plans shall be encouraged by the County Agricultural Commissioner to be designed to preserve shrub communities where the LeConte's thrasher is known to be located, in accordance with State and federal regulations.

Measure 20: Although there is a low potential for the occurrence of desert tortoise in the Specific Plan area, desert tortoises may occur on site. If tortoises are discovered during subsequent surveys, the State Department of Fish and Game and the U.S. Fish and Wildlife Service shall be contacted immediately.

Measure 21: Whether desert tortoises occur on site or not, garbage shall be hauled to a facility where it is immediately buried and not left above ground where ravens can congregate. If garbage service is not available, County road maintenance or other utility services shall be made contingent upon parcel owners removing visible trash on their property. The objective of these measures is to minimize the potential for increased raven predation of tortoises in the region subsequent to development.

Measure 23: A Joshua Tree Preservation and/or Transplantation Plan shall be developed by the 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 grading permits, individual project applicants shall obtain all 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 the Army Corps of Engineers.

Public Facilities

Goals

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.

Implementation Measures

Measure 2: The following standards reflect the level of general government services currently provided by the County of Kern. These standards do not supersede any requirements established by applicable Kern County Code and Ordinance requirements, nor do they require the County to provide or maintain any listed service or facility.

- Roadways
  - Level of Service C
- Parks and Recreation
  - 2 1/2 acres per 1,000 population of neighborhood and community parkland
- Fire Protection
  - One fire station per 8,155 population, with average manning of 3.8 on-duty firefighters per fire station

- Law Enforcement
  - 7 officers per 15,000 population, with 3 patrol cars per 7 officers sufficient to support staff and facilities including detention facilities
- Libraries
  - 17,981 square feet of library space per 34,397 population, with associated staff and books

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 18: Where individual lot sizes and/or soil types are found unsuitable for individual sewage disposal systems, as determined by the Kern County Environmental Health Services Department or the California Regional Water Quality Control Board, connection to the Rosamond Community Services District central treatment plant or other sewage treatment plant shall be required. All subdivisions and mobile home park developments, regardless of lot size, shall be required to connect to the central treatment plant or to construct, operate, and maintain "package" sewage treatment plants at a level of efficiency and effectiveness at least equivalent to that provided by the community services district central treatment plan.

Measure 20: Proper address signs shall be provided by the individual project applicants for easy identification of locations during emergencies.

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) Where feasible, voluntary refuse separation would also assist in reducing the ultimate quantity of solid waste deposited in the Rosamond-Mojave Landfill by allowing for recycling/resource recovery (a curbside recycling program).

(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.

Seismic/Safety Element

Goals

Goal 1: To promote a safe and healthful living environment.

Goal 2: Reduce the potential for property damage and injury by requiring development standards that adequately mitigate these environmental constraints where feasible to do so.

Goal 3: Protect human life and health.

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 2: Regardless of percentage of slope, development on hillsides will be sited in the least obtrusive fashion, thereby minimizing the extent of topographic alteration required.

Policy 7: Compliance with site-specific issues, goals, policies, and implementation measures contained in the Seismic/Safety Element of the Kern County General Plan.

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.

Implementation Measures

Measure 2: Permanent structures, including mobile homes, accessory structures, and water wells located in the 100-year floodplain, shall be elevated and/or flood protected to 1.0 foot above the base flood elevation as shown on the County floodplain maps or 2.0 feet above any backwater conditions, whichever is higher. The foundation shall be designed to protect against the potential scour velocities.

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.

Measure 9: All projects shall be required to retain any increased drainage on site until such time as a viable drainage master plan is implemented. Development proposed following implementation of such a drainage master plan must be accomplished in accordance with the approved drainage master plan.

Measure 13: On-site liquid waste disposal systems shall be designed and located in such a manner to prevent impairment to them, or contamination by them, during flooding, as approved by the Kern County Environmental Health Services Department.

Measure 14: On-site waste disposal systems shall be designed and located to prevent impairment to them, or contamination by them, during flooding, as approved by the Kern County Environmental Health Services Department.

Measure 21: Detention basin/retention basin(s) will be required to retain the excess generated on-site flows under the proposed developed condition.

Measure 22: Detention/retention facilities store generated debris, reduce the peak storm runoff discharge, thus decreasing the size of downstream conveyance facilities. These basins shall be excavated below natural ground and shall not impound water above grade. Basins shall be buffered from adjacent residential development. Refer to Appendix I of the Environmental Impact Report for recommended improvements for retention basins.

Measure 23: To ensure proper basin performance, inspections will be required by the Kern County Public Works Department and the Kern County Environmental Health Services Department, at a minimum, semiannually and after major storms. These inspections will determine the necessity and frequency for debris, weeds, rodents, vector control, and other repair requirements. (Reference pages 37 and 38 of Appendix I of the Environmental Impact Report for a list of on-site safety provisions and devices that may be applicable to retention facilities.

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.

c) Routinely clean manholes and basins to remove sediment and debris.

d) Source control surveys of all industrial facilities to determine possible contributors to stormwater pollution, especially those facilities at which storage or handling of hazardous or toxic chemicals takes place.

e) Controlling washdown drainage from industrial facilities. In some cases, disposal to sanitary sewers may be required.

f) Providing information to residents on disposal of petroleum waste, waste oil and grease, and pesticide containers.

g) Carefully controlling pesticide and fertilizer usage.

Measure 25: Soils on graded slopes shall be strengthened by planting to reduce the potential of erosion. During the interim period before the ground cover takes hold, straw, wood chips, and plastic (Visqueen) shall be used as stabilizing agents.

Measure 26: All developments and substantial improvements (including basements) that lie within the 100-year Flood Hazard A Zone shall be elevated 1.0 foot above Kern County's established base elevations. These developments should be anchored to prevent flotation, collapse, or lateral movement to the scour depth limit. The water surface elevation of the base flood should not be increased by more than 1.0 foot with the proposed development combined with all other proposed and existing developments.

Measure 30: All projects shall be required to retain any increased drainage on site until such time as a viable drainage master plan is implemented. Development proposed following implementation of such a drainage master plan must be done in accordance with the approved drainage master plan.

Air Quality Element

Goals

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.

Policies

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. (See Environmental Impact Report Air Quality for additional recommended mitigation measures, page 161.)

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 5: Energy conservation practices, as required by the Subdivision Map Act, Building Energy Efficiency Standards (California Energy Commission, 1988), and State and local laws, shall be incorporated into the design of the individual projects to have the secondary effect of limiting stationary source pollutants both on- and off-site. These standards address insulation and instruction to the original homeowners addressing glazing (window) type shading, heating/cooling system type, thermostats, lighting, water heating equipment, etc.

Noise Element

Goals

Goal 1: To protect the health and welfare of Kern County residents.

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 2: Noise attenuation mitigation will be required of all new development within areas subject to excessive noise levels.

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.

Policy 4: The policies of the Kern County Noise Element are hereby adopted by reference.

Implementation Measures

Measure 1: The following standards are established as the maximum desired ambient noise levels. Noise shall be attenuated so as not exceed these standards.

	L_{50} dB(A) L_{dn}		**CNEL**
	Day	**Night**	
Insensitive Uses	65	60	75
Moderately Sensitive Uses	60	55	70
Sensitive Uses	55	45	65
Highly Sensitive Uses	50	40	60

Measure 2: The implementation measures of the Kern County Noise Element are hereby adopted by reference.

Measure 3: The Kern County Environmental Health Services Department, upon obtaining a referral from the Board of Supervisors or a lead agency, instigate noise monitoring studies, deemed warranted, and recommend necessary adjustments to noise contour data

Measure 9: In conjunction with building permit applications, individual project applicants shall prepare and submit detailed acoustical reports as determined appropriate by the County on a project-by-project basis.

Circulation Element

Goals

Goal 3: To maintain adequate traffic safety.

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.

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).

Open Space/Conservation Element

Goal

Goal 1: Resource lands should be maintained in an undeveloped state until lands more suitable for development have been made use of.

Policies

Policy 1: The policies stated for the Land Use Element sections regarding physical constraints, public facilities, and resource lands shall also apply to this section.

Policy 3: The concentration of dwellings and other structures shall be encouraged to help maintain larger areas of open space and preserve the natural appearance and terrain as much as possible.

Policy 4: The County shall encourage planning, design, and development of building sites in such a way as to provide the maximum in safety and human enjoyment while adapting development to, and taking advantage of, the natural terrain.

Implementation Measures

Measure 1: Grading shall be restricted to slopes of less than 30 percent.

Measure 3: All graded areas not utilized for development purposes shall be immediately reseeded with a groundcover designed to withstand the desert environment.

Water Quality and Availability Element

Goals

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.

Implementation Measures

Measure 3: As required by State law, water conservation measures identified in the Environmental Impact Report shall be incorporated into the individual projects. The following water conservation measures shall be implemented where applicable and feasible:

Interior

- Supply Line Pressure: Water pressure greater than 50 pounds per square inch (psi) be reduced to 50 psi or less by means of a pressure reducing valve.
- Drinking Fountains: Be equipped with self-closing valves.
- Laundry Facilities: Water-conserving models of washers be used.
- Ultra-Low Flush Toilets: 1.5 gallons per flush toilets installed in all new construction.

Exterior

- Landscape with low-water-consuming plants wherever feasible.
- Minimize use of lawn by limiting it to lawn-dependent uses, such as playing fields. When lawn is used, require warm season grasses.
- Group plants of similar water use to reduce over irrigation of low-water-using plants.
- Provide information to occupants regarding benefits of low-water-using landscaping and sources of additional assistance.
- Use mulch extensively in all landscape areas. Mulch applied on top of soil will improve the water-holding capacity of the soil by reducing evaporation and soil compaction.
- Preserve and protect existing trees and shrubs. Established plants are often adapted to low water-using conditions, and their use saves water needed to establish replacement vegetation.
- Install efficient irrigation systems which minimize runoff and evaporation and maximize the water which will reach the plant roots. Drip irrigation, soil moisture sensors, and automatic irrigation systems are a few methods to consider in increasing irrigation efficiency and may be feasible for the projects.
- Use pervious paving material whenever feasible to reduce surface water runoff.

- Investigate the feasibility of utilizing reclaimed wastewater, stored rain water, or gray water for irrigation.

Measure 4: The individual project applicants shall adhere to the following guidelines as established by the Department of Water Resources for flood damage prevention:

- As State policy includes the conservation of water, any potential loss to groundwater shall be mitigated.
- All building structures shall be protected against a 100-year flood.
- In those areas not covered by a Flood Insurance Rate Map or Flood Boundary and Floodway Map, issued by the Federal Emergency Management Agency, the 100-year flood elevation and boundary shall be shown in the project-specific Environmental Impact Report.
- At least one route of ingress and egress to the individual developments shall be available during the 100-year flood.
- The slope and foundation designs for all structures shall be based on detailed soils and engineering studies.
- Revegetation of disturbed or newly constructed slopes shall be completed as early as possible (utilizing native or low-water-using material).
- The potential damage to the proposed individual developments by mudflow shall be assessed and mitigated on a project-by-project basis.
- Grading for the individual projects shall be limited to dry months to minimize problems associated with sediment transport during construction.

Cultural Resources Element

Goals

Goal 1: To preserve cultural resources contained on sensitive sites located within the Willow Spring Specific Plan area.

Policies

Policy 2: Recorded archaeological sites shall be subjected to individual studies prior to development.

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 al 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 propose for development shall be subjected to individual study prepared at the expense of the developer by qualified historian. Surface collection, text excavation, and laboratory analysis constitute procedure necessary to properly assess both the significance and the research potential of each individual resource.

Biological Resources Element

Goals

Goal 1: Preserve biological resources within the Specific Plan area.

Policies

Policy 1: Where possible, development shall be designed 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 Update area shall, when possible, be directed towards previously impacted areas (i.e., agricultural fields).

Implementation Measures

Measure 1: Plants protected by the California Desert Native Plants Act shall be preserved to the satisfaction of the Director of the Kern County Department of Planning and Development Services. Property owners should be encouraged to replant any plants which are unavoidably displaced.

Measure 3: Initial development within the Update area shall, when possible, be directed toward 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.

Measure 4: Project site plans shall be encouraged by the County Agriculture Commissioner to be designed to preserve shrub communities where the LeConte's thrasher is known to be located, in accordance with State and federal regulations.

Measure 5: Although there is a low potential for the occurrence of desert tortoise in the Specific Plan area, desert tortoises may occur on site. If tortoises are discovered during the subsequent surveys, the California Department of Fish and Game and the U.S. Fish and Wildlife Service shall be contacted immediately, and appropriate mitigation shall be developed and implemented prior to resumption of development activities.

Measure 7: Plants protected by the California Desert Native Plants Act shall be preserved to the satisfaction of the County Agricultural Commissioner. Property owners should be encouraged to replant any plants which are unavoidably displaced.

Kern County Zoning Ordinance

Title 19 of the Kern County Ordinance provides a description of permitted uses for the various zoning classifications within Kern County. The Zoning Ordinance consists of a Zoning Map that delineates the boundaries of zoning districts and a Zoning Code that explains the purpose of the districts, specifying permitted and conditional uses along with development and performance standards. The code aims to protect public health, safety, and the general welfare of both residents and visitors. Together with the Zoning Map, the Zoning Code identifies the particular uses permitted on each parcel of land in Kern County and sets forth regulations and standards for development to ensure that the policies, goals, and objectives of the KCGP are implemented.

In addition to land use regulations, the Zoning Code contains development standards, such as those for height, setbacks, parking, lot coverage, and gross floor area, which can lessen a new structure's impacts on a location or area. The code also regulates permitted uses in each of the County's zoning districts to ensure compatibility between land uses. Listed below and shown in **Figure 3-7**, *Existing Zoning Classifications*, in **Chapter 3**, *Project Description*, are base and combining districts found within the existing and project site, including the SCE Whirlwind Substation and tie-line corridors:

- A (Exclusive Agriculture) District - The purpose of the A District is to designate areas suitable for agricultural uses and to prevent the encroachment of incompatible uses onto agricultural lands and the premature conversion of such lands to nonagricultural uses. Uses in the A District are limited primarily to agricultural uses and other activities compatible with agricultural uses.

- E (Estate) District - The purpose of the E District is to designate areas suitable for larger lot residential living environments. Uses are limited to those typical of and compatible with quiet residential neighborhoods. The minimum lot size shall be one-quarter acre (10,890 square feet) unless the E District is combined with the Lot Size Combining District (Chapter 19.54 of this title), where a larger minimum lot size is specified. The minimum lot size may be reduced when any E District is combined with the Cluster (CL) Combining District (Chapter 19.58 of this title). Agricultural uses permitted in the E District are accessory uses and should not be established until a primary use is established.

- FPS (Floodplain Secondary) Combining District - The purpose of the FPS Combining District is to protect public health and safety and minimize property damage by designating areas that are subject to flooding with relatively low velocities or depths and by establishing reasonable restrictions on land use in such areas. The FPS District shall be applied to those areas lying within special flood hazard areas designated as Zones AO and AH, and Zone A1-A30 on the Flood Insurance Rate Maps (FIRM), but excluding the floodway on the Flood Boundary Floodway Maps (FBFM), the Designated Floodway on the State of California's Board of Reclamation's Kern River Designated Floodway Studies, or other maps from engineering studies adopted by the County Board of Supervisors. The regulations established by the FPS District shall be in addition to the regulations of the base district with which the FPS District is combined.

- WE (Wind Energy) Combining District - In adopting this chapter, the Board of Supervisors intends to promote the use of proven wind-driven generators for energy recovery as well as safeguards to ensure the health, safety, and welfare of the citizens of the County. The board also intends to promote the use of an alternative to fossil-fuel-generated electrical power in areas of Kern County that have suitable wind resources to produce commercial quantities of wind-generated electrical power. Further, it is the intent of the Board of Supervisors that site-specific applications of this chapter should occur only in a manner that provides harmony between the suitability of a project site with existing area land use and physical surroundings.

- RS (Residential Suburban) Combining District - The purpose of the RS Combining District is to expand the number and type of permitted domestic agricultural uses within rural residential areas. The RS Combining District may be combined with the Estate (E) where the minimum lot size is one-half net acre (21,780 square feet) or larger. The RS Combining District may also be combined with the Platted Lands (PL) District, provided that each lot contains a minimum of one-half net acre. The uses allowed and regulations established by the RS District should be in addition to the regulations of the base district with which the RS District is combined. The keeping of animals

permitted by the RS District is an accessory use and shall not be established until a primary use is established.

The project includes requests for Zone Variances to authorize multiple parcels of substandard size where a minimum of 20 acres is required for a change in base zoning from E (2 1/2) RS (Estate 2.5 acres, Residential Suburban Combining), E (5) RS (Estate 5 acres, Residential Suburban Combining), E (10) RS (Estate 10 acres, Residential Suburban Combining), and E (20) RS (Estate 20 acres, Residential Suburban Combining) to the A (Exclusive Agriculture) Zone District on approximately 75.10 acres, pursuant to Section 19.12.050, *Minimum Lot Size*, of the Kern County Zoning Ordinance.

- Chapter 19.106 - *Variances* - Where special physical circumstances exist limiting the development of a particular property in accordance with development standards of a zoning district, relief from the development standards may be secured by the granting of a variance from those standards. The granting or denial of a variance will be based on whether the particular circumstances conform to the standards of this chapter. Under no circumstances will a variance from permitted or conditionally permitted uses be considered or granted.

Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern Council of Governments (Kern COG) and was adopted on July 21, 2022. The 2022 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 2022 RTP is the Sustainable Communities Strategy (SCS), which is required by California's Sustainable Communities and Climate Protection Act, of Senate Bill 375. The California Air Resources Board (CARB) set targets for Kern's greenhouse gas (GHG) emissions reductions from passenger vehicles and light-duty trucks at 9 percent per capita by 2020 and 15 percent per capita by 2035 as compared to 2005. In addition, Senate Bill 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation (RHNA), ensuring consistency between low-income housing needs and transportation planning. Kern COG closely coordinated the RHNA and RTP/SCS development process using the same oversight committee for both. Local jurisdictions will use the RHNA to identify locations to 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 seeks to improve economic vitality; improve air quality; improve the health of communities; improve transportation and public safety; promote the conservation of natural resources and undeveloped land; increase access to community services; increase regional and local energy independence; and increase opportunities to help shape the community's future.

The 2022 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 may be considered reasonably available over the time horizon of the RTP/SCS. This RTP promotes a more efficient transportation system that calls for fully funding alternative transportation modes, while emphasizing transportation demand and transportation system management approaches for new capacity (Kern COG, 2022).

Kern COG is currently in the process of updating the RTP and SCS. The Regional Planning Advisory Committee (RPAC) is comprised of local agency planning representatives who provide technical review and recommendation to the Kern Council of Governments Board of Directors. It is anticipated that the final adoption of the RTP/SCS and associated documents will be adopted by June 2026. The 2026 RTP/SCS 55-day public review and comment period began May 8, 2026, and the 45-day public review public comment period for the Environmental Impact Report (EIR) began May 18, 2026. The 30-day public review and comment period for the Draft 2027 Federal Transportation Improvement Program (FTIP) and corresponding conformity analysis begins June 1, 2026.

Kern County's Solid Waste Management Plan

The Solid Waste Management Plan is a comprehensive guide for all solid waste management activities in Kern 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 Kern 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

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 and policies identified above. Compliance with the aforementioned policies is illustrated in **Table 4.11-2**, *Consistency Analysis*. The change in the land use on the project site is significant if either one or both of the effects described under the thresholds of significance below occur as a result of the project. Using the aforementioned resources and professional judgment, impacts were analyzed according to the 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.

Project Impacts

Impact 4.11-1: The project would physically divide an established community.

The project would be developed on primarily vacant land, with some existing transmission and communications infrastructure. Land uses surrounding the project site include wind and solar energy generation facilities, communications infrastructure, agricultural lands, sparse residential development, and vacant land.

The nearest established community is the unincorporated community of Rosamond, approximately 8 miles east of the project site. Furthermore, the project does not include any physical barriers that would divide the arrangement of existing surrounding residences (such as the development of a freeway or any other large infrastructure).

Existing public access easements are proposed to be vacated through the approval of a Non-summary Vacation of Public Access Easements by the Kern County Planning and Natural Resources Department. The purpose of the request is to accommodate on-site equipment and road layout efficiencies. None of the requested vacations would prevent legal access to any surrounding parcel. Therefore, the project is not anticipated to physically divide or restrict access to the surrounding parcels or an established community; no impact would occur.

SCE Whirlwind Substation Upgrades

The project includes two 220-kilovolt (kV) overhead tie-lines to the SCE Whirlwind Substation located on the adjacent parcels to the south of the project site. SCE's work activities outside of the Whirlwind Substation includes tie-line access clearing, installing telecommunications lines, installing tie-line support poles or towers, stringing overhead conductors, and operating/maintaining the tie-lines to the Point of Change of Ownership. Within the existing Whirlwind Substation, each tie-line would require the installation of facilities for a new 220 kV switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3**, *Project Description*.

Similar to the project site, the Whirlwind Substation is 8 miles from the nearest established community. The existing facility does not divide a community, and the improvements, except for the transmission structures and lines, would be within the existing Whirlwind Substation property boundaries. The proposed upgrades do not include any physical barriers that would divide the arrangement of the existing surrounding residences (such as the development of a freeway or any other large infrastructure). Therefore, the proposed Whirlwind Substation upgrades and tie-lines would not divide an established community, and no impact would occur.

Mitigation Measures

No mitigation measures are required.

Level of Significance

No impact would occur.

Impact 4.11-2: The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Regional Plans, Policies, and Regulations

Although Kern COG does not have jurisdiction over land use planning, the 2022 RTP/SCS sets forth general policies/actions that apply to transportation developments that are linked to land use decisions and are intended to achieve the specific goals listed above. While all the goals are interrelated and important, the 2022 RTP/SCS identifies mobility—the improvement of mobility of people and freight—as the RTP/SCS's highest goal.

The project is approximately 8 miles west of Rosamond, which has been identified by the 2022 RTP/SCS as a commuter community that has been growing in the past decade (Kern COG 2022). Rosamond is proximal to the Lancaster Metrolink station, providing direct access to Los Angeles Union Station. The 2022 RTP/SCS identifies the Rosamond Metrolink extension from Lancaster to Rosamond in the constrained Capital Improvement Program through 2046. As discussed, the project includes the vacation of public access easements and a ZCC, which would not affect Kern COG's ability to achieve the goals set forth in the 2022 RTP/SCS.

As discussed above, the project would require a ZCC to the A (Exclusive Agriculture) District. A rezone to this zoning district would not preclude any future extension of Metrolink. Furthermore, all project components would be constructed within the proponent-owned parcels and would not impede future development on other available lands. The project would require the vacation of public access easements to accommodate on-site equipment and road layout efficiencies. While the alignment of any planned future extension of Metrolink has not been designed, the project is west of the Lancaster Metrolink Station and 8 miles west of Rosamond, rendering it highly unlikely that any future development would require public access at the vacated public access easements. The project would not inhibit the mobility goal of the 2022 RTP/SCS, as it would be constructed within the proponent-owned parcels and would not physically remove access to any local, regional, or state transportation network. Therefore, the project would not be inconsistent with the 2022 RTP/SCS, and no impact would occur.

Local Plans, Policies, and Regulations

The project is subject to the KCGP, the Willow Springs Specific Plan, and the Kern County Zoning Ordinance, which guide long-term development for the protection and public interest of the County's growth and development. As stated above, implementing the project would require approval of a ZCC, CUPs, Zone Variance, and Non-Summary Vacations of Public Access Easements.

The following discussion evaluates the project's consistency with the applicable environmentally related plans, policies, and regulations of the above plans, policies and regulations.

Kern County General Plan and Willow Spring Specific Plan

Table 4.11-2, *Consistency Analysis with Kern County General Plan for Land Use* and **Table 4.11-3**, *Consistency Analysis with Willow Springs Specific Plan for Land Use* (at the end of Section 4.11.5), present an evaluation of the project's consistency with both the KCGP and Willow Springs Specific Plan. The tables list applicable goals and policies identified above in the regulatory setting and provide analysis on the project's general consistency with overarching policies. As evaluated in detail in **Table 4.11-2**, *Consistency Analysis with Kern County General Plan for Land Use,* and **Table 4.11-3**, *Consistency*

Analysis with Willow Springs Specific Plan for Land Use, the project is consistent with the goals and policies of the KCGP and the Willow Springs Specific Plan.

Non-Summary Vacations of Public Access Easements

As discussed above, the project includes the vacation of public access easements, requested as "nonsummary vacations," with the intention to eliminate public access easements on some of the parcels on the project site to accommodate on-site equipment and road layout efficiencies. None of the requested vacations would prevent legal access to any surrounding parcels. The public access easements do not meet the California Streets and Highways Code criteria for the vacation to qualify as a summary vacation, as it does not affect a street or highway. Instead, the vacation is considered a non-summary vacation, which would be reviewed for approval by the Kern County Planning and Natural Resources Department. With approval, the project would comply with local approval requirements for vacation of public access easements.

Kern County Zoning Ordinance

As described above, the project is subject to the regulations of the Kern County Zoning Ordinance. As shown in **Table 4.11-1**, *Project Site and Surrounding Land Uses*, and **Figure 3-5**, *Existing Zoning Classifications*, in **Chapter 3**, *Project Description*, the Kern County Zoning Ordinance regulates allowable uses within the A (Exclusive Agriculture), A-1 (Limited Agriculture), Estate (E), and Platted Lands (PL). Many project parcels also contain one or multiple of the following combining districts: Floodplain (FP), Floodplain Secondary (FPS), Wind Energy (WE), and Residential Suburban (RS).

The project proponents have requested a ZCC, two CUPs, and a ZV for project approval. The ZCC would change the existing base zoning district (excluding their combining zone classification) to the A (Exclusive Agriculture) District, except for those parcels that are already in the A Zone District. BESS facilities are authorized within the A District with approval of a CUP. Therefore, the project would also require the approval of a CUP pursuant to Chapter 19.12.030 of the Kern County Zoning Ordinance. With the ZCC and CUP approval, the project would be consistent with the Exclusive Agriculture zoning classification.

Additionally, a ZV approval is required, as it would authorize multiple parcels of substandard size where a minimum of 20 acres is required for a change in base zoning from E (2 1/2) RS (Estate 2.5 acres, Residential Suburban Combining), E (5) RS (Estate 5 acres, Residential Suburban Combining), E (10) RS (Estate 10 acres, Residential Suburban Combining), and E (20) RS (Estate 20 acres, Residential Suburban Combining) to the A (Exclusive Agriculture) Zone District. As such, with approval of the ZCC, CUPs, and ZV, the project would be consistent with applicable land use policies and regulations, and potential impacts related to consistency with the zoning ordinance would be less than significant.

SCE Whirlwind Substation Upgrades

As discussed in Impact 4.11-1, the project includes SCE Whirlwind Substation improvements that would be completed fully within the 100-acre established footprint. The electric tie-lines would extend from the respective Point of Change of Ownership poles across the project site boundary to the interconnection points at the Whirlwind Substation 220 kV bus, located outside the established footprint, but still on SCE-owned property. Pursuant to Kern County Ordinance Section 19.08.090 and California Public Utilities Commission (CPUC) General Order 131-E, local agencies are preempted from imposing discretionary land use approvals on such facilities. Instead, the construction, modification, and operation of the electric transmission facilities are governed by State law and subject to CPUC jurisdiction, as SCE is a regulated public utility entity. See **Chapter 3**, *Project Description*, for further details regarding appropriate regulatory

plans, policies, and regulations for the SCE Whirlwind Substation upgrades. SCE would comply with all applicable laws and regulations during the construction and operation of its facilities, and impacts would not be significant.

Mitigation Measures

Implementation of mitigation measures discussed in the policy consistency analyses found in **Table 4.11-2**, *Consistency Analysis with Kern County General Plan Policies for Land Use,* and **Table 4.11-3**, *Consistency Analysis with the Willow Springs Specific Plan for Land Use,* and presented elsewhere in this Draft EIR would be required.

Level of Significance

Impacts would be less than significant.

4.11.5 Cumulative Setting, Impacts, and Mitigation Measures

As discussed above, the project does not have the potential to physically divide an established community, as the nearest established community of Rosamond is located approximately 8 miles east (Impact 4.11-1). Five projects have been identified within 6 miles of the project site. Lands between the project site and the other projects are either undeveloped or comprise utility-scale solar development and scattered rural residences. Therefore, the project, in combination with other projects included in the analysis of cumulative impacts, would not have the potential to physically divide an established community.

Furthermore, each project included in the analysis of cumulative impacts would be required to demonstrate consistency with all applicable planning documents governing the respective project site. Should potential impacts be identified, appropriate mitigation would be prescribed that would likely reduce potential impacts on land use compatibility and the environment. As described in **Table 4.11-2**, *Consistency Analysis with Kern County General Plan for Land Use,* and **Table 4.11-3**, *Consistency Analysis with the Willow Springs Specific Plan for Land Use,* below, the project would be consistent with the goals and policies of the KCGP and the Willow Springs Specific Plan, respectively. In addition, with approval of the ZCC and CUPs, the project would be an allowable use that would not conflict with the land use or zoning classification for the project site. Therefore, it is not anticipated that the project would result in a cumulatively considerable contribution to a significant cumulative impact resulting from an inconsistency with an environmentally related policy of the KCGP Kern County Zoning Ordinance or the Willow Springs Specific Plan.

With regard to cumulative effects of utility-scale BESS facilities, there is a possibility that external factors, such as the development of newer technology, changes in State or national policy, or economic factors, could lead to the abandonment of such BESS facilities. Unlike other types of facilities that can be retrofitted and utilized for other uses, BESS facilities have limited options for repurposing. Should it be determined that the BESS facility is no longer commercially viable, its abandonment could conflict with land use plans, policies, and regulations. Additionally, there is potential for nonadherence to the previously approved ZCC, CUPs, Zone Variance, and Non-Summary Vacations permit approvals. Accordingly, the abandonment of utility-scale BESS facilities would have a potentially significant impact. However, **Mitigation Measure (MM) 4.11-1** would be implemented, requiring the preparation and implementation of a Decommissioning Plan. The Decommissioning Plan would ensure deconstruction remains consistent with applicable

regulations, including those related to land use plans and policies. Therefore, the abandonment of BESS facilities would not contribute to a cumulative impact on surrounding land uses.

If any portion of the project is decommissioned, those components would be removed from the site to facilitate its conversion for other uses, in accordance with the applicable land use regulations in effect at that time. Furthermore, the implementation of **MM 4.11-1** ensures financial assurances with the County related to the decommissioning of the site to ensure the health, safety, and welfare of citizens. While the County aims to promote alternatives to fossil-fuel-generated electrical power and the storage and efficient use of stored electrical power in areas of the County with suitable characteristics, it is necessary to protect surrounding landowners from potential impacts associated with the abandonment of such facilities. With the implementation of **MM 4.11-1**, the project would not considerably contribute to a significant cumulative impact. Cumulative impacts would be less than significant.

SCE Whirlwind Substation Upgrades

As described above in Impacts 4.11-1 and 4.11-2, the project includes SCE tie-line and substation improvements within SCE-owned property boundaries that would require installing new facilities at the Whirlwind Substation, such as a new 220kV switch rack, transformers, support structures, circuit breakers, as well as telecommunications work to interconnect the proposed BESS with the Whirlwind Substation. Implementation of the Whirlwind Substation improvements and tie-lines would not divide communities nor contribute to any conflict with applicable land use plans that would avoid or mitigate environmental effects. Thus, the Whirlwind Substation upgrades and tie-lines would not considerably contribute to a significant cumulative impact. Cumulative impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.11-1** would be required.

MM 4.11-1: Prior to issuance of building permits, the project operator shall provide a Decommission Plan 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 battery energy storage arrays and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. The Decommissioning Plan shall include procedures for restoration and stabilization of disturbed areas; implementation of erosion and sediment control measures; and management of stormwater runoff during and following decommissioning activities consistent with the Kern County Public Works' Development Standard. Temporary and permanent best management practices shall be implemented as necessary until restoration performance standards outlined in the Decommissioning Plan have been achieved and approved by the Kern County Planning and Natural Resources Department.

Salvage value for the battery energy storage arrays 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 battery energy storage 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 decommissioning plan; or

d. Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.

The financial institution or Surety Company shall give the County at least 180 days' notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Engineering, Surveying, and Permit Services Department or County contracted consulting firm(s) at a cost to be borne by the project operator to substantiate that adequate funds exist to ensure deconstruction of all battery energy storage arrays 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 decommissioning of the site by the County shall be returned to the project operator.

Should any portion of the battery energy storage system 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 battery energy storage system owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, battery energy storage system 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 battery energy storage system that has been deemed abandoned be permitted to remain in place for more than forty-eight (48) months from the date the battery energy storage system was first deemed abandoned.

Level of Significance after Mitigation

Cumulative impacts would be less than significant.

Project Consistency with the Kern County General Plan and Willow Springs Specific Plan

Table 4.11-2, *Consistency Analysis with Kern County General Plan Policies for Land Use*, summarizes the consistency of the project with all applicable goals and policies of the KCGP, and **Table 4.11-3**, *Consistency Analysis with the Willow Springs Specific Plan for Land Use*, presents an evaluation of the project's consistency with the Willow Springs Specific Plan.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Chapter 1. Land Use, Open Space and Conservation Element		
1.3 Physical and Environmental Constraints		
Goal 1: To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.	Consistent with implementation of **Mitigation Measure (MM) 4.7-1**, **MM 4.7-2**, and **MM 4.10-2**.	Consistent with this policy, the project includes construction, operation, maintenance, and eventual decommissioning of an approximately 9,200 megawatt-hour (MWh) capacity Battery Energy Storage System (BESS) facility with interconnection to the Southern California Edison (SCE) Whirlwind Substation. None of the project parcels are identified in any of the California hazardous materials databases. See **Section 4.9**, *Hazards and Hazardous Materials*, of this Draft EIR. As described in **Section 4.7**, *Geology and Soils*, of this Draft 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. The nearest active fault to the project site is the Garlock Fault and the San Andreas Fault Zone, located approximately 9 miles northwest and 11 miles southwest of the project, respectively. In addition, construction of the project would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Additionally, **MM 4.7-1** requires a site-specific geotechnical study to be conducted to evaluate soil conditions in accordance with applicable ordinances of the Kern County Building Code (Chapter 17.08). Adherence to all applicable regulations and **MM 4.7-1** would mitigate any potential impacts associated with fault rupture adjacent to the project site. Additionally, the project would implement the recommendations of the site-specific final geotechnical study, as required by **MM 4.7-1**. The final study's siting recommendations would be designed to withstand seismic activity specific to site conditions contained in the final design plans by a registered and licensed geotechnical engineer to be fully compliant with the seismic recommendations, per **MM 4.7-2.** The eastern portion of the project site is located within FEMA Flood Zone A (100-year flood hazard area). Infrastructure proposed as part of the project, including the battery energy storage arrays, operation and maintenance buildings, substations, and transmission infrastructure, would not be sited within the FEMA 100-year flood hazard area. The only permanent structure that is sited within the flood zone is an incident

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
		command post, which includes a water tank, pumphouse, and well. Other minimal improvements, such as a detention basin, roadways, fencing, and security features, are proposed within the 100-year flood hazard area. These changes could increase the occurrence of on-site or off-site flooding. Implementation of **MM 4.10-2** requires that grading for the project facilities does not alter the ground surface such that the extent of flooding during storm events is substantially increased. It would also require preparation of a Final Drainage Plan that would design project facilities to have one foot of freeboard clearance above the calculated maximum flood depths for the battery energy storage 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 Kern County General Plan and Floodplain Management Ordinance. Thus, final review of the 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 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	The project site is not located within areas mapped as Map Code 2.1, 2.2, 2.3, 2.5, 2.6 – 2.9, 2.10, or 2.11. See 1.3, *Physical and Environmental Constraints*, Goal 1, 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 3: Zoning and other land use controls will be used to regulate and, in some instances, to prohibit development in hazardous areas.	Consistent	The project site is not located within areas mapped as Map Code 2.1, 2.2, 2.3, 2.5, 2.6 – 2.9, 2.10, or 2.11. See 1.3, *Physical and Environmental Constraints*, 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	The project design ensured that the BESS facility would be exclusively outside of the flood zone on the western portion of the project site. In addition, grading in the flood zone would be minimized and designed for a "no-net-fill" and to avoid potential impacts related to flood flows. The project would be required to comply with Kern County Code Article III, Section 17.48.270. Therefore, the 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 **MM 4.10-2**.	See 1.3, *Physical and Environmental Constraints*, Goal 1, above.
Policy 11: Protect and maintain watershed integrity within Kern County.	Consistent with implementation of **MM 4.9-1**, **MM 4.10-1**, and **MM 4.10-2**.	As discussed in **Section 4.10**, *Hydrology and Water Quality*, the project would implement BMPs outlined in the SWPPP during construction to avoid impacts on water quality, including the preservation of existing vegetation and topography to the maximum extent feasible to minimize the risk of flooding (**MM 4.10-1)**. The project would also implement a Final Drainage Plan to minimize potential increases in runoff from the project site (**MM 4.10-2**). As described in **Section 4.9**, *Hazards and Hazardous Materials*, the project would implement **MM 4.9-1**, which requires the project proponent to provide a Hazardous Materials Business Plan (HMBP) to reduce mixing of pollutants with stormwater onsite, thereby maintaining the integrity of the watershed.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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 **MM 4.10-1** and **MM 4.10-2**.	See **Section 4.10**, *Hydrology and Water Quality*, of this Draft EIR. A grading permit would be obtained from Kern 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. The project would implement **MM 4.10-2**, which would require the preparation of a Final Drainage Plan, which would minimize the potential for changes in onsite drainage patterns to increase erosion and sedimentation. Since project construction would disturb over an acre of ground, the project operator would conform to the requirements of the National Pollutant Discharge Elimination System (NPDES) General Construction Permit Program through the preparation of a SWPPP that would include erosion control and sediment control BMPs designed to prevent disturbed soils from moving offsite, as required by **MM 4.10-1**. Therefore, the project would be consistent with this measure.
Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.	Consistent with implementation of **MM 4.10-2**.	See **Section 4.10**, *Hydrology and Water Quality*, of this Draft EIR. The easternmost portion of the project site is within "Zone A," which is defined by FEMA as an area subject to flooding during a 100-year flood event. The project would be developed to maintain clearance above the maximum base flood elevation and comply with the Kern County Floodplain Management Ordinance and **MM 4.10-2**. The battery energy storage arrays are within "Zone X," which is defined by FEMA as having minimal flood hazard. Therefore, the 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 H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.	Consistent with implementation of **MM 4.10-2**.	As described in **Section 4.10**, *Hydrology and Water Quality*, a portion of the easternmost project site is located within "Zone A", which is defined by FEMA as an area subject to flooding during a 100-year flood event. However, the battery energy storage arrays are within "Zone X," which is defined by FEMA having minimal flood hazard. The project would also be developed in accordance with the Kern County General Plan, Floodplain Management Ordinance, and would implement **MM 4.10-2**, which requires the preparation of a Final Drainage Plan. Therefore, the project would be consistent with this measure.
Measure J: Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.	Consistent with implementation of **MM 4.10-2**.	See 1.3, *Physical and Environmental Constraints,* 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 with implementation of **MM 4.10-1**	**Sections 4.7**, *Geology and Soils,* and **4.10**, *Hydrology and Water Quality*, discuss impacts related to soil-disturbing activities. As discussed therein and required by **MM 4.10-1**, the project proponent/operator would comply with the requirements of State Water Resources Control Board's NPDES General Construction Permit Program through the preparation of a SWPPP that includes erosion control and sediment control BMPs designed to prevent disturbed soils from moving offsite. Thus, the project would be consistent with this measure.
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 **MM 4.14-2** and **MM 4.14-3**.	As discussed in **Section 4.14**, *Public Services*, the project would implement **MM 4.14-2**, which would ensure that the project contributes funding to County public services through payment of property taxes, or if eligible, a Cumulative Impact Charge (CIC). Furthermore, **MM 4.14-3** would support maximization of sales and use tax revenues associated with project construction or equivalent compensatory payments. These measures would help to offset potential demands on public facilities and services. Therefore, the 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
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 with implementation of **MM 4.17-1**.	Public utility impacts are evaluated in **Section 4.17**, *Utilities and Service Systems*, of this Draft EIR. As provided in **MM 4.17-1**, the project proponent would provide written documentation to the Kern County Planning and Natural Resources Department demonstrating sufficient water supplies have been secured and will be available to serve project construction, operation, and decommissioning. Documentation shall demonstrate that the identified water source(s) are capable of meeting the project's projected water demand, as identified in the project Water Supply Assessment, during normal, single-dry, and multiple-dry years. Therefore, the project would be consistent with this goal.
Goal 9: Serve the needs of industries and Kern County residents in a manner that does not degrade the water supply and the environment and protect the public health and safety by avoiding surface and subsurface nuisances resulting from the disposal of hazardous wastes, irrespective of the geographic origin of the waste.	Consistent with implementation of **MM 4.9-1** and **MM 4.10-1**.	As discussed in **Section 4.10**, *Hydrology and Water Quality*, the project would implement BMPs outlined in the SWPPP during construction to avoid impacts on water quality (**MM 4.10-1)**. Furthermore, as described in **Section 4.9**, *Hazards and Hazardous Materials*, the project would implement **MM 4.9-1**, which requires the project proponent to provide an HMBP to delineate hazardous material storage areas, describe the proper handling and procedures to avoid spills, disposal of materials, and notification procedures for spills, among other quality control requirements regarding hazardous materials. The proper handling, storage, disposal, and notification would ensure disposal would not enter surface or subsurface water supplies.
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 **MM 4.14-2** and **MM 4.14-3**.	All infrastructure associated with the 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, as discussed under 1.4, *Public Facilities and Services*, Goal 1, the project would implement **MM 4.14-2** and **MM 4.14-3** to offset potential demands on public facilities and services.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.	Consistent with implementation of **MM 4.17-1** and **MM 4.17-2**.	Public utility impacts are evaluated in **Section 4.17**, *Utilities and Service Systems*. As described therein, the project would have less-than-significant impacts on water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities. As provided in **MM 4.17-1**, the project proponent would provide written documentation to the Kern County Planning and Natural Resources Department demonstrating sufficient water supplies have been secured and will be available to serve project construction, operation, and decommissioning. Documentation shall demonstrate that the identified water source(s) are capable of meeting the project's projected water demand, as identified in the project Water Supply Assessment, during normal, single-dry, and multiple-dry years. In addition, with implementation of **MM 4.17-2**, a Waste Disposal and Recycling Coordinator would ensure the separation and proper disposal of recyclable materials and solid waste during construction and operation, resulting in less-than-significant impacts to solid waste providers.
Policy 6: The County will ensure adequate fire protection to all Kern County residents.	Consistent with implementation of **MM 4.14-2** and **MM 4.14-3**.	See 1.4, *Public Facilities and Services*, Goal 1, above.
Policy 7: The County will ensure adequate police protection to all Kern County residents.	Consistent with implementation of **MM 4.14-2** and **MM 4.14-3**.	See 1.4, Public Facilities and Services, Goal 1, above.
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 **MM 4.14-2**, **MM 4.14-3,** and **MM 4.17-1**.	See 1.4, Public Facilities and Services, Goals 1 and Goal 5, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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 **MM 4.14-2** and **MM 4.14-3**.	See 1.4, Public Facilities and Services, Goal 1, above.
Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.	Consistent with the implementation of **MM 4.17-1**.	Public utility impacts are evaluated in **Section 4.17**, *Utilities and Service Systems*, of this Draft EIR. As provided in **MM 4.17-1**, the project proponent would provide written documentation to the Kern County Planning and Natural Resources Department demonstrating sufficient water supplies have been secured and will be available to serve project construction, operation, and decommissioning. Documentation shall demonstrate that the identified water source(s) are capable of meeting the project's projected water demand, as identified in the project Water Supply Assessment, during normal, single-dry, and multiple-dry years.
Measure D: Involve utility providers in the land use and zoning review process.	Consistent with implementation of **MM 4.17-1** and **MM 4.17-2**.	See 1.4, *Public Facilities and Services*, Policy 3, above.
Measure J: Ensure that the Superintendent of Schools and the respective school districts are informed of development proposals and are afforded the opportunity of evaluating their potential effect on the physical capacity of school facilities.	Consistent with implementation of **MM 4.14-2** and **MM 4.14.3**.	The Kern County Superintendent of Schools was notified of the project during circulation of the Notice of Preparation for the Draft Environmental Impact Report. The comment letter received from the Kern County Superintendent of Schools concluded that the project would not result in a significant impact on schools or district facilities, provided that any applicable statutory school fees are paid. Accordingly, no additional mitigation measures related to school facilities were identified as necessary. Consistent with Measure J, the project would be subject to CIC fees that would contribute to future school facility improvements as described in Section 1.4, *Public Facilities and Services*, Goal 1.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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 **MM 4.14-1** through **MM 4.14-3**.	Impacts on fire protection services are evaluated in **Section 4.14**, *Public Services*, of this Draft EIR. **MM 4.14-1** requires implementation of a Fire Safety Plan, which would outline the required notification procedures and emergency fire precautions to help reduce fire risks and the consequential need for fire protection services onsite. The project would include an Incident Command Center, complete with a dedicated fire water and fire alarm annunciator panel to detect and manage the event of an unlikely fire. The project would be designed, constructed, and operated to meet or exceed all fire safety codes and standards in effect in Kern County, including NFPA standards, the National Electrical Code, and the CFC. See 1.4, *Public Facilities and Services*, Goal 1, above; the project would be subject to CIC fees that would contribute to future fire protection services, as determined necessary by the County.
Measure N: Secure complete and accurate information on all hazardous wastes generated, handled, stored, treated, transported, and disposed of within or through Kern County.	Consistent with implementation of **MM 4.9-1** and **MM 4.10-1**.	See 1.4, *Public Facilities and Services*, Goal 9, above.
1.5 Special Treatment Areas		
Goal 1: To recognize the validity of existing Specific Plan and Rural Community Plan decisions and to identify areas for which similar detailed planning efforts should be undertaken in the future so as to best meet the needs and concerns of local residents.	Consistent	As provided in **Table 4.11-3**, *Consistency Analysis with the Willow Springs Specific Plan for Land Use*, below, the project would be consistent with the Willow Springs Specific Plan.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 3: Rural communities are historically identifiable small-scale non-urban settlements located in outlying areas of the County which contain a mixture of residential and supportive commercial and other uses serving the community and the surrounding rural population. The County will ensure that the unique character of these communities is preserved and enhanced by recognizing the scale, density, size, and composition of development as summarized in Appendix B.	Consistent with implementation of **MM 4.1-1** through **MM 4.1-6**.	The project site is situated approximately 8 miles west of the unincorporated community of Rosamond and approximately 17 miles south of the incorporated City of Tehachapi. While the project may alter existing views by introducing additional utility-related infrastructure in the landscape, the project would implement **MM 4.1-1** through **MM 4.1-6**. Implementation of these mitigation measures would minimize project-specific visual impacts by maintaining the site free of debris and trash, selecting colors and treatments that blend with the surrounding environment, preserving and revegetating native vegetation where possible, providing privacy screening, and reducing the visibility of project features.
Measure A: Where particular policies or standards are not addressed within a special treatment area, the provisions of the KCGP shall govern.	Consistent	The project would adhere to all provisions of the KCGP. The project proponent would be required to obtain all discretionary permits for the construction and operation of a BESS facility. Prior to approving the discretionary permits, the decision-making authority would be required to find that the project is consistent with the KCGP.
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	Upon approval of the proposed zone changes, the project site would be located on land that is zoned as A (Exclusive Agriculture). Other uses besides agriculture, including energy generation and storage, are permitted within the A District with the approval of a Conditional Use Permit (CUP). The project would not introduce a non-agricultural use that is sensitive to or incompatible with agricultural operations that occur nearby; at the end of its operating life, infrastructure associated with the project would be removed, which would allow the project to be used for agricultural uses; and the proposed zone changes would ensure compatibility between energy storage facility development and agricultural uses.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
		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. Additionally, as discussed in **Section 4.12**, *Mineral Resources,* of this Draft EIR, the project site is not located within the bounds of a mineral resource area. Therefore, the project would be consistent with this goal.
Goal 2: Protect areas of important mineral, petroleum, and agricultural resource potential for future use.	Consistent	See 1.9, *Resources,* Goal 1, above.
Goal 3: Ensure the development of resource areas minimize effects on neighboring resource lands.	Consistent	See 1.9, *Resources,* Goal 1, above.
Goal 4: Encourage safe and orderly energy development within the County, including research and demonstration projects, and to become actively involved in the decision and actions of other agencies as they affect energy development in Kern County.	Consistent	Surrounding land uses include existing renewable energy infrastructure, including wind and solar energy generation facilities. The project would interconnect with the adjacent existing SCE Whirlwind Substation. The project site is located adjacent to an existing substation and in proximity to energy-generating facilities, which supports the safe and orderly development of energy and utility-related infrastructure within the County.
Goal 5: Conserve prime agricultural lands from premature conversion.	Consistent	As discussed in **Section 4.2**, *Agriculture and Forestry Resources*, of this Draft EIR, 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 would not be affected by the project.
Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.	Consistent	Consistent with this policy, the project includes construction, operation, maintenance, and eventual decommissioning of an approximately 9,200 MWh capacity BESS facility with interconnection to the existing SCE Whirlwind Substation. The project would store electrical energy and return it to the grid during peak demand, thereby improving reliability of renewable energy supplies and decreasing reliance on fossil fuels for electricity. This would, in turn, protect the environment by reducing fossil fuel dependency.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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 proposed facilities would be consistent with the surrounding land uses, including existing solar and wind facilities, and the SCE Whirlwind Substation.
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, *Resources*, Goal 5, of the Kern County General Plan, above.
Policy 10. To encourage effective groundwater resource management for the long-term economic benefit of the County the following shall be considered: a. Promote groundwater recharge activities in various Zone Districts. b. Support for the development of Urban Water Management Plans and promote Department of Water Resources grant funding for all water providers. c. Support the development of groundwater management plans. d. Support the development of future sources of additional surface water and groundwater, including conjunctive use, recycled water, conservation, additional storage of surface water and groundwater and desalination.	Consistent with implementation of **MM 4.10-1** and **MM 4.17-1**.	As discussed in **Section 4.10**, *Hydrology and Water Quality*, the project proponent/operator would implement a SWPPP in accordance with **MM 4.10-1**, which would reduce potential impacts on groundwater quality. In addition, as discussed in **Section 4.17**, *Utilities and Service Systems*, **MM 4.17-1** requires the project proponent to demonstrate to the County that adequate water supplies have been secured and will be available to serve project construction, operation, and decommissioning. Accordingly, the project would not interfere with County efforts to develop Urban Water Management Plans, compromise any Department of Water Resources grant funding, the development of groundwater management plans, or the development of future sources of additional surface and groundwater.

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 **MM 4.10-1** and **MM 4.10-2**.	As discussed in **Section 4.10**, *Hydrology and Water Quality*, of this Draft 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. Consistent with this policy, the project proponent would submit a Final Drainage Plan to the County for review (**MM 4.10-2**), which would minimize runoff from the project site. The project would also prepare a SWPPP that would include erosion control and sediment control BMPs designed to minimize disturbance, stabilize exposed soils, and maintain drainage conveyance to prevent sediment from leaving disturbed areas during construction (**MM 4.10-1**). Development of on-site stormwater controls, including detention basins and retention basins, would be incorporated into the project.
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 1.3, *Physical and Environmental Constraints*, Goal 5, of the Kern County General Plan, above.
Policy 14: Emphasize conservation and development of identified mineral deposits.	Consistent	As discussed in **Section 4.12,** *Mineral Resources*, of this Draft EIR, the project site does not contain, nor is it in proximity to, known mineral resources. Consistent with this policy, no development would occur that would impact mineral deposits.
Policy 25: Discourage incompatible land use adjacent to Map Code 8.4 Mineral and Petroleum areas.	Consistent	As discussed in **Section 4.12**, *Mineral Resources*, of this Draft EIR, no portion of the project site, including the Whirlwind Substation and tie-line corridors, is within or adjacent to areas designated as Map Code 8.4 – Mineral and Petroleum.
Measure C: The County Planning Department will seek review and comment from the County Engineering and Survey Services Department on the implementation of the National Pollution Discharge Elimination System for all discretionary projects.	Consistent	The Kern County Planning and Natural Resources Department will notify the Kern County Public Works Department for the review of the analysis of hydrological impacts and compliance with applicable requirements of the NPDES.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure H: Use the California Geological Survey's latest maps to locate mineral deposits until the regional and statewide importance mineral deposits map has been completed, as required by the Surface Mining and Reclamation Act.	Consistent	See the project consistency analysis for 1.9, *Resources*, Goals 1 and 2, of the KCGP, above. There is no historical surface mining in the project area, and the project would not interfere with any existing mineral deposits or extraction operations.
Measure K: Protect oilfields and mineral extraction areas through the use of appropriate implementing zone districts: A (Exclusive Agriculture), DI (Drilling Island), NR (Natural Resource), or PE (Petroleum Extraction).	Consistent	The project does not include mineral or natural resources extraction; however, the site would not preclude such adjacent uses, as the project would request a zone change from E (Estate Residential) to A (Exclusive Agriculture) lands.
1.10 General Provisions		
Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.	Consistent with implementation of **MM 4.14-2** and **MM 4.14-3**.	Consistent with this goal, the project requires consideration and approval of a CUP as well as other discretionary actions that ensure compliance with all policies. The project would implement **MM 4.14-2** and **MM 4.14-3**, which would ensure that the project contributes funding to County public services through payment of property taxes, or if eligible, a CIC, and would support maximization of sales and use tax revenues associated with project construction or equivalent compensatory payments. These measures would help to ensure adequate public services and accommodate anticipated future growth. Therefore, the 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
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 **MM 4.14-2** and **MM 4.14-3**.	See 1.4, *Public Facilities and Services*, Goal 1, above.
Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.	Consistent with implementation of **MM 4.14-2** and **MM 4.14-3**.	See 1.4, *Public Facilities and Services*, Goal 1, above.
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 with implementation of **MM 4.14-2** and **MM 4.14-3**.	See 1.4, *Public Facilities and Services*, Goal 1, above.
Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.	Consistent with implementation of **MM 4.17-1** and **MM 4.17-2**.	See 1.4, *Public Facilities and Services*, Policy 3, above.
Measure D: Involve utility providers in the land use and zoning review process.	Consistent with implementation of **MM 4.17-1** and **MM 4.17-2**.	See 1.4, *Public Facilities and Services*, Policy 3, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the County's Public Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterize the quality of upper groundwater in the alternative septic systems would adversely impact groundwater quality. If the evaluation indicated that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic system is installed, the applicant would be required to supply sewage collection, treatment, and disposal facilities.	Consistent	Water and wastewater impacts are evaluated in **Section 4.10**, *Hydrology and Water Quality*, and **Section 4.17**, *Utilities and Service Systems*, of this Draft EIR. During construction, bottled water would be provided, and portable toilets and hand-washing facilities are proposed. During operations, wastewater would be generated through facilities inside each of the operation and maintenance buildings, and a septic tank and leach field would be provided for each building, which would be permitted in accordance with the Kern County Public Health Environmental Health Division permitting process. Final review of the 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 project would not pose significant environmental or public health and safety hazards, consistent with this measure.
1.10.2 Air Quality		
Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.	Consistent with implementation of **MM 4.3-1** through **MM 4.3-8**.	Air quality and GHG impacts are evaluated in **Section 4.3**, *Air Quality*, and **Section 4.8**, *Greenhouse Gas Emissions*, of this Draft EIR, respectively. Project construction activities would generate ambient PM_{10} concentrations that exceed the U.S. Environmental Protection Agency Significant Impact Level of 5 µg/m3 at the project fenceline. However, the project would not exceed the County's adopted thresholds for ROG, NO_X, CO, SO_2, PM_{10}, and $PM_{2.5}$. Furthermore, the project would implement **MM 4.3-1** through **MM 4.3-8** to reduce emissions of PM_{10} during construction, including diesel emission reduction strategies and compliance with EKAPCD Rules and Regulations for dust control. Although construction-related PM_{10} concentrations would remain significant and unavoidable after mitigation, the project considers air quality impacts and incorporates feasible measures to reduce air quality degradation consistent with the intent of this policy.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that: (1) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and (2)The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.	Consistent with implementation of **MM 4.3-1** through **MM 4.3-8**.	See 1.10.2, *Air Quality*, Policy 18, above. This Draft EIR serves to comply with this policy. With the implementation of **MM 4.3-1** through **MM 4.3-8**, operational impacts would be less than significant, but construction impacts would be significant and unavoidable. Therefore, a statement of overriding consideration with a finding regarding significant and unavoidable air quality impacts will be required to approve the project.
Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.	Consistent with implementation of **MM 4.3-2**.	Air quality impacts are evaluated in **Section 4.3**, *Air Quality*, of this Draft EIR. As discussed therein, implementation of **MM 4.3-2** would further reduce fugitive dust emissions through preparation of a comprehensive Site-Specific Fugitive Dust Control Plan, in compliance with the adopted rules and regulations of the Eastern Kern Air Pollution Control District (EKAPCD) on ministerial permits.
Policy 21: The County shall support air districts efforts to reduce PM_{10} and $PM_{2.5}$ emissions.	Consistent with implementation of **MM 4.3-1** and **MM 4.3-3**.	Air quality impacts are evaluated in **Section 4.3**, *Air Quality*, of this Draft EIR. As discussed in that section, emissions would not exceed EKAPCD significance thresholds. Implementation of **MM 4.3-1** and **MM 4.3-3** would further reduce PM_{10} and $PM_{2.5}$ emissions.
Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, state, and local standards.	Consistent with implementation of **MM 4.3-1** through **MM 4.3-8**.	Air quality impacts are evaluated in **Section 4.3**, *Air Quality*, of this Draft EIR. Consistent with this policy, the project would implement **MM 4.3-1** through **MM 4.3-8**, which would reduce impacts to air quality to the extent feasible. The project would be in compliance with all applicable EKAPCD 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**, *Air Quality*, of this Draft EIR. Consistent with this measure, the EKAPCD received the NOP for this Draft EIR and will continue to receive notices (for example, notice of availability of the Draft EIR) during the processing of the entitlements for the project, thereby facilitating the EKAPCD's review and comment of the project.
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 **MM 4.3-1, MM 4.3-2,** and **MM 4.3-3**.	Air quality impacts are evaluated in **Section 4.3**, *Air Quality*, of this Draft EIR. Consistent with this measure, implementation of **MM 4.3-1, MM 4.3-2,** and **MM 4.3-3** 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.	Consistent with implementation of **MM 4.3-1** through **MM 4.3-5**.	See the project consistency analysis for 1.10.2, *Air Quality*, Policies 18 through 21, above. The project would comply with this policy.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
h. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86). i. The use and development of park and ride facilities in outlying areas. j. Other strategies that may be recommended by the local Air Pollution Control Districts.		
Measure J: The County should include PM_{10} control measures as conditions of approval for subdivision maps, site plans, and grading permits.	Consistent with implementation of **MM 4.3-1** through **MM 4.3-5**.	See the project consistency analysis for 1.10.2, *Air Quality*, Policy 18, above. The project would comply with this policy.
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 **MM 4.5-1** through **MM 4.5-5**.	Cultural resource impacts are evaluated in **Section 4.5**, *Cultural Resources*, of this Draft EIR. This Draft EIR serves to comply with this policy and includes **MM 4.5-1** through **MM 4.5-5** 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 with implementation of **MM 4.5-3**.	Cultural resource impacts are evaluated in **Section 4.5**, *Cultural Resources*, of this Draft 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 **MM 4.5-3**.
Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.	Consistent with implementation of **MM 4.5-1** through **MM 4.5-5**.	Cultural resource impacts are evaluated in **Section 4.5**, *Cultural Resources*, of this Draft EIR. Consistent with this measure, impacts on archaeological and historical resources are evaluated in accordance with CEQA, and the project would implement **MM 4.5-1** through **MM 4.5-5** to address any potential archaeological or historical resources. This Draft EIR serves to comply 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 M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.	Consistent with implementation of **MM 4.7-4** through **MM 4.7-7**.	Paleontological resource impacts are evaluated in **Section 4.7**, *Geology and Soils*, of this Draft EIR. **MM 4.7-4** through **MM 4.7-7** would reduce potential impacts to known paleontological resources through hiring a qualified paleontologist to carry out all mitigation measures related to paleontological resources and review excavation plans. A Paleontological Resources Awareness Training program would also be prepared for all construction personnel working on the project. In the event that a paleontological resource is found, the paleontologist would evaluate the significance and would recommend appropriate treatment measures.
Measure N: The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.	Consistent.	Tribal Cultural resource impacts are evaluated in **Section 4.16**, *Tribal Cultural Resources*, of this Draft EIR. Consistent with this measure, notification regarding the project was 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 **MM 4.5-4**.	Cultural resource impacts are evaluated in **Section 4.5**, *Cultural Resources*, of this Draft EIR. As stated in **MM 4.5-4**, a Native American monitor(s) would monitor ground-disturbing activities during project construction.
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 the implementation of **MM 4.4-1** through **MM 4.4-20**.	Biological resource impacts are evaluated in **Section 4.4**, *Biological Resources*, of this Draft EIR. As stated in that section, the project will be subject to **MM 4.4-1** through **MM 4.4-20** to avoid or reduce impacts to listed species (for example, federally- and state-listed threatened and endangered species). Additionally, the project would be developed and operated in accordance with all local, State, and federal laws pertaining to the preservation of sensitive species.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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	Kern County staff provided a copy of the NOP of this Draft EIR to CDFW and the United States Fish and Wildlife Service. Mitigation measures have been identified as appropriate given the findings of the analysis of impacts on biological resources. Further, both of these agencies will be notified of the availability of, and opportunity to comment on, the Draft EIR's mitigation requirements regarding biological resources, and the Final EIR will include responses to any comments that are received and will incorporate any needed changes to the EIR in response to comments received. Therefore, the County is complying with this policy for the project.
Policy 29: The County will seek cooperative efforts with local, State, and federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.	Consistent with implementation of **MM 4.4-1** through **MM 4.4-20**.	Biological resource impacts are evaluated in **Section 4.4**, *Biological Resources*, of this Draft EIR. Implementation of **MM 4.4-1** through **MM 4.4-20** would further increase cooperative efforts with local, State, and federal agencies to support threatened and endangered plants 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, *Threatened and Endangered Species*, Policy 28, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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 **MM 4.4-19** and **MM 4.4-20**.	Biological resource impacts and impacts on riparian areas are evaluated in **Section 4.4**, *Biological Resources*, of this Draft EIR. The jurisdictional delineation prepared for the project identified seven non-wetland water features within the project site and tie-line corridors; however, the drainage features meet criteria qualifying them as waters of the state and streambeds subject to the jurisdiction of the RWQCB and CDFW, respectively. Consistent with this policy, **4.4-19** would require the project proponent to submit a final Jurisdictional Delineation report to the Kern County Planning and Natural Resources Department. If jurisdictional features are to be impacted, the project proponent would implement **MM 4.4-20** to avoid, minimize, reduce, and/or mitigate impacts on potential jurisdictional features. The County will maintain open communication with all trustee and responsible agencies related to biological resources and will respond to all comments from reviewing agencies during the CEQA process.
Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.	Consistent	Biological resource impacts are evaluated in **Section 4.4**, *Biological Resources*, of this Draft 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	Biological resource impacts are evaluated in **Section 4.4**, *Biological Resources*, of this Draft EIR. Consistent with this measure, the project would implement mitigation measures that require consultation with CDFW and USFWS. The County will maintain open communication with all trustee and responsible agencies related to biological resources and will respond to all comments from reviewing agencies during the CEQA process.

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 **MM 4.9-1**, **MM 4.10-1**, and **MM 4.10-2**.	Water quality impacts are evaluated in **Section 4.10**, *Hydrology and Water Quality*, of this Draft EIR. Consistent with this policy, the project would implement **MM 4.10-2**, which requires a Final Drainage Plan designed to evaluate and minimize potential increases in runoff from the project site. Also, as required by **MM 4.10-1**, the project proponent/operator would conform to the requirements of the State Water Resources Control Board's NPDES General Construction Permit Program through the preparation of a SWPPP, which would include erosion control and sediment control BMPs designed to prevent disturbed soils from moving offsite. The project would also implement **MM 4.9-1**, requiring preparation and maintenance of an HMBP 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 with implementation of **MM 4.17-1**.	See 1.4, *Public Facilities and Services*, Goal 5, above.
Policy 43: Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.	Consistent with implementation of **MM 4.10-1** and **MM 4.10-2**.	See 1.9, *Resources*, 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 **MM 4.9-1**, **MM 4.10-1**, and **MM 4.10-2**.	See 1.10.6, *Surface Water and Groundwater*, Policy 34, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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 with implementation of **MM 4.17-1**.	See 1.4, *Public Facilities and Services*, Goal 5, above.
1.10.7 Light and Glare		
Policy 47: Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.	Consistent with implementation of **MM 4.1-6**.	Light and glare impacts are evaluated in **Section 4.1**, *Aesthetics*, of this Draft EIR. Consistent with this policy, the project would implement **MM 4.1-6**, which requires that before construction, the project proponent/operator shall demonstrate through a lighting plan that the project complies with the Dark Skies Ordinance. The project must limit unnecessary lighting and ensure lighting is directed downward and shielded to avoid light trespass.
Policy 48: Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.	Consistent with implementation of **MM 4.1-6**.	See 1.10.7, *Light and Glare*, 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	Light and glare impacts are evaluated in **Section 4.1**, *Aesthetics*, of this Draft EIR. Consistent with this measure, light and glare impacts are evaluated in accordance with CEQA. This Draft EIR serves to comply with this policy.
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 with implementation of **MM 4.7-1**, **MM 4.7-2**, and **MM 4.10-2**.	See 1.3, *Physical and Environmental Constraints*, Goal 1, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Goal 5: *Maintain a minimum [level of service] LOS D for all roads throughout the County.*	Consistent with implementation of **MM 4.15-1**.	Traffic impacts are evaluated in **Section 4.15**, *Transportation*, of this Draft EIR. As discussed in this section, traffic counts for two study area intersections were collected and determined to operate at an acceptable LOS (that is, LOS D or better) during the PM peak hours under existing conditions. Construction of the project would cause operations at the intersection of 170th Street West and Avenue A to fall below acceptable standards during the PM peak hour, when construction workers are departing the site. However, implementation of **MM 4.15-1** would require preparation and implementation of a construction Traffic Control Plan to ensure adequate public notification of construction activities, maintenance of traffic operations, and safe movement of oversized loads. **MM 4.15-1** also specifies requirements to temporarily convert the intersection of 170th Street West and Avenue A from a two-way stop control to an all-way stop control during the PM construction worker commute periods. Converting the intersection to an all-way stop control would ensure that it operates at acceptable levels. Therefore, the project would be consistent with this policy.
2.3.3 Highway Plan		
Goal 5: Maintain a minimum Level of Service (LOS) D.	Consistent with implementation of **MM 4.15-1**.	See 2.1, *Introduction*, Goal 5, above.
Policy 1: Development of roads within the County shall be in accordance with the Circulation Diagram Map. The charted roads are usually on section and mid-section lines. This is because the road center line can be determined by an existing survey.	Consistent	**Section 4.15**, *Transportation*, of this Draft EIR, provides a discussion of County circulation consistency. Consistent with this policy, all road improvements would be completed per Caltrans and/or Kern 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 cooperation with Kern County.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 3: This plan's road-width standards are listed below. These standards do not include state highway widths that would require additional right-of-way for rail transit, bike lanes, and other modes of transportation. Kern County shall consider these modifications on a case-by-case basis. • Expressway [Four Travel Lanes] Minimum 110-foot right-of-way; • Arterial [Major Highway] Minimum 110-foot right-of-way; • Collector [Secondary Highway] Minimum 90-foot right-of-way; • Commercial-Industrial Street Minimum 60-foot right-of-way; and • Local Street [Select Local Road] Minimum 60-foot right-of-way.	Consistent	Potential traffic impacts are evaluated in **Section 4.15**, *Transportation*, of this Draft EIR. The project would design and develop roads consistent with the road network policies and would implement the Kern County Development Standards as they relate to road standards and planning requirements.
Measure A: The Planning Department shall carry out the road network Policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. Planning Department can help developers and property owners in identifying where planned circulation is to occur.	Consistent	See 2.3.3, *Highway Plan*, Policy 3, above.
2.3.4 Future Growth		
Goal 1: To provide ample flexibility in this plan to allow for growth beyond the 20-year planning horizon.	Consistent	See 2.3.3, *Highway Plan*, Policy 3, 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 **MM 4.15-1**.	See 2.1, *Introduction*, Goal 5, above.
Policy 4: As a condition of private development approval, developers shall build roads needed to access the existing road network. Developers shall build these roads to County standards unless improvements along State routes are necessary then roads shall be built to Caltrans standards. Developers shall locate these roads (width to be determined by the Circulation Plan) along centerlines shown on the circulation diagram map unless otherwise authorized by an approved Specific Plan Line. Developers may build local roads along lines other than those on the circulation diagram map. Developers would negotiate necessary easements to allow this.	Consistent	See 2.3.3, *Highway Plan*, Policy 1, above.
Policy 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 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	Consistent with this policy, the 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 1: Provide a means for guiding decisions on vacating public roads.	Consistent	The project does not include the proposal to vacate any public roads.
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	The project does not include the proposal to vacate any public roads. However, the project would include Non-Summary Easement Vacations that would remove public access easements within the project site facility. The intention is to accommodate onsite equipment and road layout efficiency. None of the requested vacations would prevent legal access to any surrounding parcel; therefore, the requested vacations would not land-lock any surrounding parcel.
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	As discussed in **Chapter 3**, *Project Description,* of this Draft EIR, the project would include Non-Summary Easement Vacations to remove public access easements within the project site facility and would process parcel maps to merge smaller parcels into larger ones. The project is designed to leave section and mid-section road reservations and legal access to other parcels intact. The project proponents have requested Non-Summary Vacations to eliminate public access easements on some of the parcels on the project site to accommodate on-site equipment and road layout efficiencies. None of the requested vacations would prevent legal access to any surrounding parcel. The vacations would occur in an area that is not densely developed and would not substantially affect current or future traffic volumes, as significant traffic volumes are not generated or anticipated. Any vacation requests would be subject to approval by the planning and approval process. With the approval of the aforementioned requests for either a non-summary street vacation or a parcel merger, the 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
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 over-see the applicant's information gathering process and suggest alternatives if necessary.	Consistent	Consistent with this policy, the project requires the approval of a Non-Summary Vacation from the Kern County Planning and Natural Resources Department. Upon approval, the project would be consistent.
2.3.10 Congestion Management Programs		
Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern COG's CMP.	Consistent with implementation of **MM 4.15-1**.	Potential traffic impacts are evaluated in **Section 4.15**, *Transportation*, of this Draft EIR. As discussed in this section, the project would not generate a substantial increase in VMT during construction, operation, or decommissioning. Consistent with this goal, the project would implement **MM 4.15-1** and comply with the requirements of the Kern Council of Government's Congestion Management Program.
Goal 2: To coordinate congestion management and air quality requirements and avoid multiple and conflicting requirements.	Consistent with implementation of **MM 4.3-1** through **MM 4.3-8**, and **MM 4.15-1**.	Potential traffic impacts are evaluated in **Section 4.15**, *Transportation*, and air quality impacts are evaluated in **Section 4.3**, *Air Quality*, of this Draft EIR. Consistent with this goal, the project would implement **MM 4.15-1**, requiring the approval of a construction Traffic Control Plan. The project would also implement **MM 4.3-1** through **MM 4.3-8**, which would reduce impacts to air quality to the extent feasible.
Policy 1: Pursuant to California Government Code 65089(a), Kern County has designated the Kern COG as the County's Congestion Management Agency (CMA).	Consistent with implementation of **MM 4.15-1**.	See 2.3.10, *Congestion Management Programs*, Goal 1, above.
Policy 2: The CMA is responsible for developing, adopting, and annually updating a CMP. The CMP is to be developed in consultation with, and with the cooperation of, the regional transportation agency (also the Kern COG), regional transportation providers, local governments, Caltrans, and the air pollution control district.	Consistent with implementation of **MM 4.3-1** through **MM 4.3-8**, and **MM 4.15-1**.	See 2.3.10, *Congestion Management Programs*, Goal 1 and Goal 2, above. The project would comply with all applicable EKAPCD 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 A: The Kern COG should request the proper consultation from County of Kern to develop and update the proper congestion management program.	Consistent with implementation of **MM 4.15-1**.	See 2.3.10, *Congestion Management Programs*, Goal 1, above.
Measure B: The elements within the Kern Congestion Management Program are to be implemented by each incorporated city and the County of Kern. Specifically, the land use analysis program, including the preparation and adoption of deficiency plans is required. Additionally, the adoption of trip reduction and travel demand strategies are required in the Congestion Management Program.	Consistent with implementation of **MM 4.15-1**.	See 2.3.10, *Congestion Management Programs*, Goal 1, above.
2.4.10 Rosamond – Willow Springs		
Goal 3: Prevent future circulation system overloads between Antelope Valley area, Los Angeles County on the south, and Mojave and Tehachapi areas on the north.	Consistent with implementation of **MM 4.15-1**.	See 2.3.10, *Congestion Management Programs*, 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 4: The County should monitor development applications as they relate to traffic generation developed for this plan. If traffic resulting from projects such as General Plan amendment(s) would exceed current volume to capacity projections, mitigation is required if development causes roadways to fall below LOS D and LOS C for Caltrans roadways. 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. This is triggered if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build off-site transportation facilities. These enhancements would reduce traffic congestion impacts.	Consistent with implementation of **MM 4.15-1**.	See 2.3.10, *Congestion Management Programs*, Goal 1, above.
Policy 6: Continue collecting the Traffic Impact fee to help construct needed circulation improvements.	Consistent	As discussed in **Section 4.15**, *Transportation*, of this Draft EIR, the project would adhere to the requirements of the Rosamond-Willow Springs Traffic Impact Fee Program, as applicable. Therefore, the project would be consistent with this policy.
2.5.1 Trucks and Highways		
Goal 1: Provide for Kern County's heavy truck transportation in the safest way possible.	Consistent with implementation of **MM 4.15-1**.	Traffic impacts are evaluated in **Section 4.15**, *Transportation*, of this Draft EIR. Consistent with this policy, the project would implement **MM 4.15-1**, which would require the preparation of a Construction Traffic Control Plan and comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards. This mitigation measure would ensure the provision of heavy truck transportation resulting from project implementation in the safest way possible.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Goal 2: Reduce potential overweight trucks.	Consistent with implementation of **MM 4.15-1**.	See 2.5.1, *Trucks and Highways*, Goal 1, above.
Goal 3: Use State Highway System improvements to prevent truck traffic in neighborhoods.	Consistent with implementation of **MM 4.15-1**.	See 2.5.1, *Trucks and Highways*, Goal 1, above.
Policy 1: California Department of Transportation (Caltrans) should be made aware of the heavy truck activity on Kern County's roads.	Consistent with implementation of **MM 4.15-1**.	As discussed in **Section 4.15**, *Transportation,* of this Draft EIR, and **MM 4.15-1,** coordination and consultation with Caltrans will occur as necessary, consistent with this policy.
2.5.4 Transportation of Hazardous Materials		
Goal 1: Reduce risk to public health from transportation of hazardous materials.	Consistent with implementation of **MM 4.9-1**.	**Section 4.9**, *Hazards and Hazardous Materials*, of this Draft EIR, provides a discussion of hazardous materials transportation and existing regulatory requirements 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 **MM 4.9-1**, which requires the preparation of an HMBP 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. This measure 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 **MM 4.9-1**.	See 2.5.4, *Transportation of Hazardous Materials*, Goal 1, above.
Policy 2: Kern County and affected cities should reduce use of County-maintained roads and city-maintained streets for transportation of hazardous materials.	Consistent with implementation of **MM 4.9-1**.	See 2.5.4, *Transportation of Hazardous Materials*, Goal 1, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure A: Roads and highways utilized for commercial shipping of hazardous waste destined for disposal will be designated as such pursuant to Vehicle Code Sections 31303 et seq. Permit applications shall identify commercial shipping routes they propose to utilize for particular waste streams.	Consistent with implementation of **MM 4.9-1**.	See 2.5.4, *Transportation of Hazardous Materials*, Goal 1, above.
Chapter 3. Noise Element		
3.2 Noise Sensitive Areas		
Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.	Consistent with implementation of **MM 4.13-1** through **MM 4.13-4**.	Noise impacts, noise sensitive areas, and County noise thresholds are evaluated in **Section 4.13**, *Noise*, of this Draft EIR. As discussed in this section, noise impacts would be minimized with implementation of **MM 4.13-1** through **4.13-4**.
Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.	Consistent with implementation of **MM 4.13-1** through **MM 4.13-4**.	See 3.2, *Noise Sensitive Areas*, Goal 1, above.
Policy 3: Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise.	Consistent with implementation of **MM 4.13-1** through **MM 4.13-4**.	See 3.2, *Noise Sensitive Areas*, Goal 1, above. Specifically, **MM 4.13-4** requires the project proponent to demonstrate, before issuance of building permits, that operational noise generated by the project would not exceed applicable noise standards at adjacent or nearby residentially zoned properties. This will be demonstrated through an acoustical study prepared by a qualified acoustical professional and approved by the County. To achieve compliance, the final project design may incorporate one or more noise attenuation measures that effectively reduce noise.
Policy 4: Utilize good land use planning principles to reduce conflicts related to noise emissions.	Consistent with implementation of **MM 4.13-1** through **MM 4.13-4**.	See 3.2, *Noise Sensitive Areas*, 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 7: Employ the best available methods of noise control.	Consistent with implementation of **MM 4.13-1** through **MM 4.13-4**.	See 3.2, *Noise Sensitive Areas*, Goal 1, above.
Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.	Consistent with implementation of **MM 4.13-4**.	The Kern County Zoning Ordinance requires a CUP—a discretionary land use entitlement that is subject to CEQA environmental review—for the project. As discussed in **Section 4.13**, *Noise*, of this Draft EIR, the CEQA environmental analysis of the project involved consideration of the project's potential noise impacts. The analysis revealed the potential for noise to exceed the Willow Springs Specific Plan's maximum acceptable noise levels for properties zoned for residential uses located adjacent to the project site. Therefore, **MM 4.13-4** requires an acoustical study to demonstrate that operational noise that is generated by the project would not exceed applicable noise standards.
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, this Draft EIR analyzes the project for conformance with the applicable policies of the Noise 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 with implementation of **MM 4.13-1** through **MM 4.13-4**.	See 3.2, *Noise Sensitive Areas*, Goal 1 and Measure A, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure G: At the time of any discretionary approval, such as a request for a General Plan Amendment, zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall: a) Be the responsibility of the applicant. b) Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics. c) Be subject to the review and approval of the Kern County Planning Department and the Environmental Health Services Department. All recommendations therein shall be complied with prior to final approval of the project.	Consistent with implementation of **MM 4.13-4**.	Consistent with this measure, **MM 4.13-4** requires the project proponent to submit an acoustical report demonstrating the project would comply with all applicable noise standards.
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.	Consistent with implementation of **MM 4.13-4**.	See 3.2, *Noise Sensitive Areas*, Goal 1 and Measure A, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
d) Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a rationale for acceptance of the project must be provided.		
Measure J: Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.	Consistent with the implementation of **MM 4.13-4**.	Consistent with this measure, the recommendations and requirements imposed pursuant to the findings of the acoustical analysis would be included with project implementation, per **MM 4.13-4**.
Chapter 4. Safety Element		
4.1 Introduction		
Goal 1: Minimize injuries and loss of life and reduce property damage.	Consistent with implementation of **MM 4.14-1**.	**Section 4.7**, *Geology and Soils*, discusses potential geologic hazards; **Section 4.9**, *Hazards and Hazardous Materials*, discusses potential hazardous pollutant concentrations; **Section 4.10**, *Hydrology and Water Quality*, discusses potential flood hazards, and **Section 4.18**, *Wildfire*, discusses potential fire hazards as a result of project implementation. Consistent with this measure, all hazards have been considered as part of this analysis. The project would comply with applicable plans and policies established by CAL FIRE and the KCFD, and NFPA 70E standards for hot electrical work. The BESS facility would be designed to meet or exceed all applicable fire safety codes and standards in effect in Kern County, including KCFD requirements, NFPA standards, National Electrical Code, CFC, and manufacturer specifications. Moreover, NFPA 855 requires that an Emergency Response Plan be developed to ensure prompt, safe, and effective response in the event of an emergency. Initial and annual refresher training is also required for on-site employees, and the project proponents would coordinate with the KCFD to facilitate site-specific training for their staff. Additionally, **MM 4.14-1** requires the development and implementation of a Fire Safety Plan.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Goal 5: Ensure the availability and effective response of emergency services following a catastrophic event.	Consistent with implementation of **MM 4.14-1**.	See 4.1, *Introduction*, Goal 1, above.
Goal 7: Ensure that adequate emergency services and facilities are available to the residents of Kern County through the coordination of planning and development of emergency facilities and services.	Consistent with implementation of **MM 4.13-2** and **MM 4.13-3**.	See 1.4, *Public Facilities and Services*, Goal 1.
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 with implementation of **MM 4.7-1, MM 4.7-2,** and **MM 4.10-2**.	See 1.3, *Physical and Environmental Constraints*, Goal 1, above.
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 with implementation of **MM 4.9-1, MM 4.9-2,** and **MM 4.14-1**.	As discussed in **Section 4.9**, *Hazards and Hazardous Materials*, and **Section 4.18**, *Wildfire*, of this Draft EIR, the analysis of potential impacts associated with hazards included consideration of project consistency with the Kern County Multi-Jurisdictional Hazard Mitigation Plan. The project would be subject to mitigation measures involving the preparation and implementation of a HMBP (**MM 4.9-1**); limitations on the types of herbicides that may be used and conditions under which they may be used (**MM 4.9-2**); and preparation of a Fire Safety Plan that would be subject to the review and approval of the Kern County Fire Department (KCFD) (**MM 4.14-1**).

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
4.3 Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure		
Policy 1: The County shall require development for human occupancy to be placed in a location away from an active earthquake fault in order to minimize safety concerns.	Consistent with implementation of **MM 4.7-1**.	Consistent with this policy, the project does not include development for human occupancy and would not be located near an active earthquake fault. The nearest active fault to the project site is the Garlock Fault and the San Andreas Fault Zone located approximately nine miles northwest and 11 miles southwest of the project, respectively. Further, development of the project would be required to comply with applicable ordinances of the Kern County Building Code and **MM 4.7-1,** which requires the project proponent to conduct a final engineering design specific geotechnical study in accordance with applicable requirements of the Kern County Building Code and the California Building Code (CBC) to evaluate, and design development to avoid or mitigate impacts associated with, hazardous soil conditions and geologic hazards.
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 with implementation of **MM 4.7-1**.	See 4.3, *Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure*, Policy 1, above.
Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.	Consistent with implementation of **MM 4.7-1**.	See 4.3, *Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure*, Policy 1, above.
4.5 Landslides, Subsidence, Seiche, and Liquefaction		
Policy 1: Determine the liquefaction potential at sites in areas of shallow groundwater (Map Code 2.3) prior to discretionary development and determine specific mitigation to be incorporated into the foundation design, as necessary, to prevent or reduce damage from liquefaction in an earthquake.	Consistent with implementation of **MM 4.7-1**.	Liquefaction potential is discussed in **Section 4.7**, *Geology and Soils*, of this Draft EIR. The project proponents would be required to implement **MM 4.7-1**, which requires submitting an engineering design specific geotechnical study to the Kern County Public Works Department to obtain required grading permits. This measure would address potential soil stability impacts and prescribe specific design requirements to address potential hazards related to unstable soils and liquefaction, as necessary.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.	Consistent with implementation of **MM 4.7-1** and **MM 4.10-1**.	As discussed in **Section 4.7**, *Geology and Soils*, of this Draft EIR, the potential for landslides on the project site is considered low given relatively flat terrain and distance to the surrounding mountain ranges. With implementation of **MM 4.10-1**, grading would be subject to compliance with the NPDES General Construction Permit requirements, and 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, per **MM 4.7-1**. Shallow groundwater is not expected on the project site. See **Section 4.7**, *Geology and Soils*, of this Draft EIR.
Measure D: Discretionary actions will be required to address and mitigate impacts from inundation, land subsidence, landslides, high groundwater areas, liquefaction and seismic events through the CEQA process.	Consistent with implementation of **MM 4.7-1, MM 4.7-2, MM 4.10-1**, and **MM 4.10-2**.	See 4.5, *Landslides, Subsidence, Seiche, and Liquefaction*, Policy 3, and 1.3, *Physical and Environmental Constraints*, Goal 1.
4.6 Wildland and Urban Fire		
Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.	Consistent with implementation of **MM 4.14-1** through **MM 4.14-3**.	Consistent with this policy, impacts on emergency services and facilities are discussed and evaluated in **Section 4.14**, *Public Services*, of this Draft EIR. **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. **MM 4.14-2** and **MM 4.14-3** require the project proponents to pay applicable fees and taxes to reduce significant impacts to fire or police protection services resulting from the project.

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 **MM 4.14-1** through **MM 4.14-3**.	As discussed in **Section 4.9**, *Hazards and Hazardous Materials*, **Section 4.14**, *Public Services*, and **Section 4.18**, *Wildfire*, of this Draft EIR, the project would comply with applicable fire protection plans, policies, and standards, including those established by CAL FIRE, the KCFD, the County Fire Code, the Uniform Fire Code, the NFPA, and applicable manufacturer specifications. In accordance with NFPA 855, the project would prepare an Emergency Response Plan to ensure prompt, safe, and effective response in the event of an emergency. NFPA 855 also requires initial and annual refresher training for on-site employees, and the project proponents would coordinate with KCFD to provide site-specific emergency response training. In addition, **MM 4.14-1** through **MM 4.14-3** require the project proponents to pay applicable fees and taxes to reduce significant impacts on fire protection services resulting from the project.
Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.	Consistent with implementation of **MM 4.14-1** and **MM 4.15-1**.	The project site is not located along an identified emergency evacuation route and is not identified in any adopted emergency evacuation plan. However, given the additional construction workers and large equipment required for project construction, and the increased vehicle traffic associated with construction, the project could physically interfere with emergency access. **MM 4.15-1** requires the development of a Construction Traffic Control Plan for review and approval from the Kern County Public Works Department and the California Department of Transportation. The project would be constructed to meet all KCFD requirements, including gate access, on-site road design, fire hydrants, safety equipment, and other fire safety requirements. Additionally, **MM 4.14-1** requires the project proponent to develop and implement a Fire Safety Plan, which would ensure appropriate emergency vehicle access requirements.
Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.	Consistent	As discussed in **Section 4.9**, *Hazards and Hazardous Materials* and **Section 4.18**, *Wildfire*, of this Draft EIR, the project would comply with the adopted County Fire Code and the requirements of the KCFD.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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	See 4.6, *Wildland and Urban Fire*, Policy 6, above.
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 **MM 4.14-1** through **MM 4.14-3**.	See 4.6, *Wildland and Urban Fire*, Policy 3, above.
Chapter 5. Energy Element		
5.2 Importance of Energy to Kern County		
Policy 8: The County should work closely with local, state, and federal agencies to assure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts to fish, wildlife, and botanical resources, wherever practical.	Consistent	See 1.10.5, Threatened and Endangered Species, Policy 28, above.
Policy 10: The County should require acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses in accordance with the Noise Element of the General Plan.	Consistent with implementation of **MM 4.13-1** through **MM 4.13-4**.	See 3.2, *Noise Sensitive Areas*, Goal 1, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
5.4.7 Transmission Lines		
Goal 1: To encourage the safe and orderly development of transmission lines to access Kern County's electrical resources along routes, which minimize potential adverse environmental effects.	Consistent	Final review of the project by the California Public Utilities Commission, as well as adherence to all applicable local, state, and federal regulations, would ensure that the project's transmission lines would not pose significant environmental or public health and safety hazards. The impacts from the tie-lines associated with the project's interconnection with the existing SCE Whirlwind Substation were analyzed throughout this Draft EIR.
Policy 5: The County should discourage the siting of above-ground transmission lines in visually sensitive areas.	Consistent	The project includes the routing of two aboveground tie-lines. As discussed in **Section 4.1**, *Aesthetics*, the project is not located within a visually sensitive area.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
A. Land Use Element		
Goal 1: To ensure compatible uses of land consistent with both short- and long-term planning objective of the County.	Consistent	The project is consistent with the Kern County General Plan and, prior to approving the project, the decision-making authority would be required to find that the project is consistent with the General Plan. See **Table 4.11-2**, *Consistency Analysis with the Kern County General Plan for Land Use*, above.
Policy 2: Encourage only those industries that do not significantly increase air pollution levels.	Consistent with implementation of **MM 4.3-1** through **MM 4.3-5**.	Air quality and GHG impacts are evaluated in **Section 4.3**, *Air Quality*, and **Section 4.8**, *Greenhouse Gas Emissions*, of this Draft EIR, respectively. Project construction activities would generate ambient PM_{10} concentrations that exceed the U.S. Environmental Protection Agency Significant Impact Level of 5 µg/m3 at the project fenceline. However, the project would not exceed the County's adopted thresholds for ROG, NO_X, CO, SO_2, PM_{10}, and $PM_{2.5}$. Furthermore, the project would implement **MM 4.3-1** through **MM 4.3-8** to reduce PM_{10} emissions during construction, including diesel emission reduction strategies and compliance with EKAPCD Rules and Regulations for dust control. Although construction-related PM_{10} concentrations would remain significant and unavoidable after mitigation, impacts would be temporary and cease upon construction completion. The project would not result in significant operation-related air pollutant emissions.
Policy 5: Encourage the maintenance of visual aesthetics in all new construction.	Consistent with implementation of **MM 4.1-1** through **MM 4.1-6**.	Visual impacts are evaluated in **Section 4.1**, *Aesthetics*, of this Draft EIR. Consistent with this policy, the project would implement **MM 4.1-1** through **MM 4.1-6**. Implementation of these mitigation measures would minimize project-specific visual impacts by maintaining the site free of debris and trash, selecting colors and treatments that blend with the surrounding environment, preserving and revegetating native vegetation where possible, providing privacy screening, and reducing the visibility of project features

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 6: Require developers to clean up any identified hazardous waste sites prior to submittal of any land division or development project.	Consistent	**Section 4.9**, *Hazards and Hazardous Materials*, of this Draft EIR provides a discussion of hazardous waste sites based on the *Phase I Environmental Site Assessment* (ESA). The Phase I ESA revealed no evidence of recognized environmental concerns (RECs), controlled RECs, historical RECs, or de minimis conditions in connection with the project site. Therefore, the project is consistent with this policy.
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	The proposed zoning changes and CUPs requested as part of this project would comply with the Kern County Zoning Ordinance and the goals, policies, and implementation measures of the Willow Springs Specific Plan, as demonstrated throughout this Draft EIR.
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 **MM 4.3-2**.	Air quality and GHG impacts are evaluated in **Section 4.3**, *Air Quality*, and **Section 4.8**, *Greenhouse Gas Emissions*, of this Draft EIR. Consistent with this policy, the project would implement **MM 4.3-2,** which requires the preparation and implementation of a comprehensive Site-Specific Fugitive Dust Control Plan, in compliance with the adopted rules and regulations of the EKAPCD on ministerial permits.
Policy 11: Retain vegetation until actual construction begins.	Consistent with implementation of **MM 4.1-3** and **MM 4.4-15**.	Consistent with this policy, construction-related activities, including vegetation removal, would not occur before obtaining all necessary project approvals, including building permits. Once approvals are obtained and pre-construction activities, such as pre-construction biological clearance surveys, are completed, vegetation would be cleared and grubbed while retaining vegetation to the extent feasible, as required by **MM 4.1-3** and **MM 4.4-15**.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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	Upon approval of the proposed zone changes, the project site would be located on land that is zoned as A (Exclusive Agriculture). Other uses besides agriculture, including energy generation and storage, are permitted within the A District with the approval of a CUP. The project would not introduce a non-agricultural use that is sensitive to or incompatible with agricultural operations that occur nearby; at the end of its operating life, infrastructure associated with the project would be removed, which would allow the project to be used for agricultural uses; and the proposed zone changes would ensure compatibility between energy storage facility development and agricultural uses. The project would not involve additional changes to 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. Additionally, as discussed in **Section 4.12**, *Mineral Resources*, of this Draft EIR, the project site is not located within the bounds of a mineral resource area. Therefore, the project would be consistent with this goal.
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 a BESS facility in the desert region of Kern County that has numerous other energy and utility-related infrastructure. Locating the project adjacent to the existing SCE Whirlwind Substation allows for direct and efficient interconnection. Final review of the project by the Kern County Planning and Natural Resources Department requires consideration and approval of a CUP and other discretionary actions that ensure compliance with all policies, 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 with the implementation of **MM 4.4-1** through **MM 4.4-20**.	Biological resource impacts are evaluated in **Section 4.4**, *Biological Resources*, of this Draft EIR. This Draft EIR serves to comply with this policy and reduce potential impacts with the implementation of **MM 4.4-1** through **MM 4.4-20**. Additionally, the project would be developed and operated in accordance with all local, State, and federal laws pertaining to the preservation of sensitive species.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 5: All grading and landform modifications shall be conducted in conformance with state-of-the-practice design and construction parameters. Typical standard minimum guidelines are set forth in Chapter 70 of the Uniform Building Code. All graded slopes shall be constructed so that the entire slope is stable.	Consistent with implementation of **MM 4.7-1, MM 4.7-2,** and **MM 4.10-2**.	See 1.3, *Physical Constraints*, Goal 1, in **Table 4.11-2**, above.
Measure 6: Surface water runoff shall be controlled via storm drains or other positive surface water control structures.	Consistent with implementation of **MM 4.10-1** and **MM 4.10-2**.	Consistent with this policy, the project would implement **MM 4.10-2**, which requires a Final Drainage Plan to be prepared and implemented, which would be designed to evaluate and minimize potential increases in runoff from the project site. In addition, implementation of **MM 4.10-1** requires implementing a SWPPP, which would ensure that any temporary construction- and decommissioning-related pollutant sources, such as disturbed soils and equipment fluids, would be appropriately managed.
Measure 8: Prior to grading permit issuance, evaluation of the collapse/hydroconsolidation potential and other engineering parameters of the various alluvial and lacustrine sediments and to provide appropriate remedial grading recommendations, a comprehensive geotechnical investigation, including exploratory drilling/trenching, sampling, and laboratory testing shall be required. Page 10 of Appendix B of the Environmental Impact Report [prepared for the Willow Springs Specific Plan] provides recommended remedial measures that may be considered on an individual project basis.	Consistent with implementation of **MM 4.7-1** and **MM 4.7-2**.	Implementation of **MM 4.7-1** and **MM 4.7-2** require that, prior to the issuance of grading or building permits, the project proponent will conduct a final engineering design specific geotechnical study in accordance with applicable ordinances of the Kern County Building Code (Chapter 17.08) and the CBC to evaluate soil conditions and geologic hazards on the project site, which will be submitted to the Kern County Public Works Department for review and approval. The project proponent would also retain a California-registered and licensed geotechnical engineer to design project facilities.
Measure 11: Remedial grading and removal shall be performed on the sites which consist of erodible and collapsible soils prior to site development.	Consistent with implementation of **MM 4.7-1**.	A discussion on soils found on-site, including erodible and collapsible soils, is provided in **Section 4.7**, *Geology and Soils*, of this Draft EIR. The project proponents would implement **MM 4.7-1**, which requires submitting an engineering design-specific geotechnical study to the Kern County Public Works Department in order to obtain required grading permits. This measure would address potential soil stability impacts and prescribe specific design requirements to address potential hazards related to erodible, collapsible, or otherwise unstable soils, as necessary.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 13: To minimize expansive soil conditions, complete avoidance or engineering design for correction of adverse conditions shall be required prior to building permit issuance on an individual project basis. Contained in Appendix B of the Environmental Impact Report "Soils and Geology Report" on page 12, provisions are recommended as remedial measures to lessen adverse conditions.	Consistent with implementation of **MM 4.7-1** and **MM 4.7-2**.	See *Resource*, Measures 8 and 11, above.
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 buffer, if such plant cover is not present.	Consistent with implementation of **MM 4.4-1** through **MM 4.4-4** and **MM 4.4-7**.	Biological resource impacts are evaluated in **Section 4.4**, *Biological Resources*, of this Draft EIR. This Draft EIR serves to comply with this measure and reduce potential impacts with mitigation. As discussed in **Section 4.4**, *Biological Resources*, significant impacts could occur to plant species including western Joshua trees on the project site. However, these impacts would be minimized to the greatest extent feasible by implementing **MM 4.4-1** through **MM 4.4-4**. Prior to the issuance of a grading permit, the project proponent/operator shall develop a Joshua Tree Preservation Plan or other similar plan as required by any incidental take permit issued to the project by CDFW per **MM 4.4-7**.
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.	Consistent with implementation of **MM 4.4-1** through **MM 4.4-4**, and **MM 4.4-7**.	See *Resource*, Measure 15, above.
Measure 19: Project site plans shall be encouraged by the County Agricultural Commissioner to be designed to preserve shrub communities where the LeConte's thrasher is known to be located, in accordance with State and federal regulations.	Consistent with implementation of **MM 4.4-9** and **MM 4.4-15**.	Biological resource impacts are evaluated in **Section 4.4**, *Biological Resources*, of this Draft EIR. Although Le Conte's thrasher was not observed on-site during biological surveys, **MM 4.4-9** would require the project proponent to conduct pre-construction or pre-decommissioning nesting bird surveys to determine whether nesting birds are present. In addition, the project would implement **MM 4.4-15**, preserving any native vegetation on-site where feasible and revegetating temporarily disturbed areas.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 20: Although there is a low potential for the occurrence of desert tortoise in the Specific Plan area, desert tortoises may occur on site. If tortoises are discovered during subsequent surveys, the State Department of Fish and Game and the U.S. Fish and Wildlife Service shall be contacted immediately.	Consistent with implementation of **MM 4.4-13**.	Biological resource impacts are evaluated in **Section 4.4**, *Biological Resources*, of this Draft EIR. Consistent with this policy, the project proponents would implement **MM 4.4-13**, which requires a pre-construction survey for desert tortoise to be conducted within 14 days of ground-disturbing activities. If Class 1 burrows or tortoises are identified, and avoidance of desert tortoise is not feasible, the project proponent/operator shall consult with USFWS and CDFW regarding the potential for project activities to result in take of the desert tortoise. The project proponents shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth in any issued permit for the project.
Measure 21: Whether desert tortoises occur on site or not, garbage shall be hauled to a facility where it is immediately buried and not left above ground where ravens can congregate. If garbage service is not available, County road maintenance or other utility services shall be made contingent upon parcel owners removing visible trash on their property. The objective of these measures is to minimize the potential for increased raven predation of tortoises in the region subsequent to development.	Consistent with implementation of **MM 4.1-1** and **MM 4.4-14**.	Consistent with this measure, the project would implement **MM 4.1-1** and **MM 4.4-14** to ensure effective management of trash and pests, including ravens. **MM 4.4-14** requires a Raven Management Plan to be developed in accordance with USFWS guidelines.
Measure 23: A Joshua Tree Preservation and/or Transplantation Plan shall be developed by the 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 **MM 4.4-1** through **MM 4.4-4** and **MM 4.4-7**.	See *Resource*, Measures 15 and 16, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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 with implementation of **MM 4.4-19** and **MM 4.4-20**.	Biological resource impacts and impacts to riparian areas are evaluated in **Section 4.4**, *Biological Resources*, of this Draft EIR. The jurisdictional delineation prepared for the project identified seven non-wetland water features within the project site and tie-line corridors; however, the drainage features meet criteria qualifying them as waters of the state and streambeds subject to the jurisdiction of the RWQCB and CDFW, respectively. Consistent with this policy, **MM 4.4-19** would require the project proponent to submit a final Jurisdictional Delineation report to the Kern County Planning and Natural Resources Department, the United States Army Corps of Engineers, the Lahontan Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW). If jurisdictional features cannot be avoided, the project proponent would implement **MM 4.4-20**, which requires consulting with jurisdictional resource agencies, obtaining all required permits, and complying with all avoidance, minimization, and compensatory mitigation measures, as set forth in permits issued to the project by RWQCB and/or CDFW.
Measure 25: Prior to issuance of grading permits, individual project applicants shall obtain all 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 the Army Corps of Engineers.	Consistent with implementation of **MM 4.4-19** and **MM 4.4-20**.	See *Resource*, Measure 24, above.
Public Facilities		
Goal 3: To restrict, if possible, any further and/or unnecessary drawdown of the water table within the plan area.	Consistent with implementation of **MM 4.17-1**.	See 1.4, *Public Facilities and Services*, Goal 5, in **Table 4.11-2**, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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 with implementation of **MM 4.14-2** and **MM 4.14-3**.	As discussed in **Section 4.14**, *Public Services*, the project would implement **MM 4.14-2**, which would ensure that the project contributes funding to County public services through payment of property taxes, or if eligible, a CIC. Furthermore, **MM 4.14-3** would support maximization of sales and use tax revenues associated with project construction or equivalent compensatory payments. These measures would help to offset potential demands on public facilities and services. Therefore, the project would be consistent with this measure.
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 **MM 4.14-2** and **MM 4.14-3**.	See *Public Facilities and Services*, Policy 2, above.
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 with implementation of **MM 4.4-12**, **MM 4.4-20**, **MM 4.14-2**, and **MM 4.14-3**.	See *Public Facilities and Services*, Policy 2, above. The project would comply with the Willow Springs Transportation Impact Fee program. Additionally, other potential impact fees related to biological resources include those related to impacts on foraging Swainson's hawk habitat (**MM 4.4-12**) and jurisdictional water resources (**MM 4.4-20**). With the implementation of these mitigation measures, the project would be consistent with this measure.
Measure 18: Where individual lot sizes and/or soil types are found unsuitable for individual sewage disposal systems, as determined by the Kern County Environmental Health Services Department or the California Regional Water Quality Control Board, connection to the Rosamond Community Services District central treatment plant or other sewage treatment plant shall be required. All subdivisions and mobile home park developments, regardless of lot size, shall be required to connect to the central treatment plant or to construct, operate, and maintain "package" sewage treatment plants at a level of efficiency and effectiveness at least equivalent to that provided by the community services district central treatment plan.	Consistent	See 1.10.1, *Public Services and Facilities*, Measure E, in **Table 4.11-2**, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 20: Proper address signs shall be provided by the individual project applicants for easy identification of locations during emergencies.	Consistent with implementation of **MM 4.14-1**.	Consistent with this measure, the project would be designed to include signs identifying the BESS facility at entrance gates. On-site roads, access gates, and fire hydrants would be designed in accordance with the KCFD requirements. The project would also include an Incident Command Center consisting of a dedicated fire water and fire alarm annunciator panel. In the event of a fire, the fire alarm annunciator panel would provide first responders with up-to-date optics of what is occurring with the BESS areas. KCFD would use this location to stage incoming emergency response equipment and for a multi-agency command post at a safe distance where full personal protective equipment will not be required. In addition, **MM 4.14-1** requires that a Fire Safety Plan be developed, which would include appropriate emergency response procedures.
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	**Chapter 3**, *Project Description*, of this Draft EIR discusses various ways in which the project would comply with applicable Kern County code and ordinance requirements. The project would ensure that the project is designed, constructed, operated and maintained, and decommissioned in a manner that is consistent with all applicable County code and ordinances. See also 4.6, *Wildland and Urban Fire*, Policy 6, in **Table 4.11-2**, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 24: Consideration shall be given to implementation of the following measure to reduce the impacts associated with solid waste generation: (f) Compacting refuse would substantially reduce the number of refuse hauling trips and allow for more effective and sanitary disposal. (g) Where feasible, voluntary refuse separation would also assist in reducing the ultimate quantity of solid waste deposited in the Rosamond-Mojave Landfill by allowing for recycling/resource recovery (a curbside recycling program). (h) Where feasible, a community recycling center should be implemented to provide convenient recycling opportunities. (i) 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. (j) 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 **MM 4.1-1** and **MM 4.17-2**.	Public utility impacts are evaluated in **Section 4.17**, *Utilities and Service Systems*, of this Draft EIR. As described therein, the project would be required to comply with all federal, State, and local statutes and regulations related to the handling and disposal of solid waste. Additionally, the project would not generate a significant amount of waste that would exceed the capacity of local landfills. Implementation of **MM 4.1-1**, which requires a Maintenance, Trash Abatement, and Pest Management Program, and **MM 4.17-2**, which requires designation of a recycling coordinator, would ensure the proper separation and disposal of solid waste.
Seismic / Safety Element		
Goal 1: To promote a safe and healthful living environment.	Consistent	See 1.3, *Physical and Environmental Constraints*, in **Table 4.11-2**, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Goal 2: Reduce the potential for property damage and injury by requiring development standards that adequately mitigate these environmental constraints where feasible to do so.	Consistent	See 1.3, *Physical and Environmental Constraints*, in **Table 4.11-2**, above.
Goal 3: Protect human life and health.	Consistent	See 1.3, *Physical and Environmental Constraints*, in the Kern County General Plan **Table 4.11-2**, 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 **MM 4.10-2**.	As described in **Section 4.10**, *Hydrology and Water Quality*, a portion of the project site is located within the 100-year floodplain and would implement **MM 4.10-2**, which requires the preparation of a Final Drainage Plan. The Final Drainage Plan would include engineering recommendations to offset increases in stormwater runoff resulting from the project, design measures to control flows, and ensure that one foot of freeboard clearance above the calculated maximum flood depts are maintained. The Final 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. In addition, the battery arrays would be located outside of the 100-year floodplain within the project site. Therefore, the 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 **Table 4.11-2**, *Consistency Analysis with the Kern County General Plan for Land Use*, above. The project is consistent with the Kern County General Plan Safety Element. Furthermore, the decision-making authority would be required to find that the project is consistent with the Specific Plan.
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 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 THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 2: Permanent structures, including mobilehomes, accessory structures, and water wells located in the 100-year floodplain, shall be elevated and/or flood protected to 1.0 foot above the base flood elevation as shown on the County floodplain maps or 2.0 feet above any backwater conditions, whichever is higher. The foundation shall be designed to protect against the potential scour velocities.	Consistent with implementation of **MM 4.10-2**.	See *Seismic / Safety Element*, Policy 1, of the Willow Springs Specific Plan above.
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.	Consistent with implementation of **MM 4.10-2**.	See *Seismic / Safety Element*, Policy 1, of the Willow Springs Specific Plan above.
Measure 9: All projects shall be required to retain any increased drainage on site until such time as a viable drainage master plan is implemented. Development proposed following implementation of such a drainage master plan must be accomplished in accordance with the approved drainage master plan.	Consistent with implementation of **MM 4.10-2**.	As discussed in **Section 4.10**, *Hydrology and Water Quality*, of this Draft EIR, the project would construct detention basins to provide areas of pervious surfaces to absorb stormwater runoff. These include retention volume design specifications based on anticipated impervious coverage. By constructing detention basins, the project is not expected to result in substantial erosion and/or sedimentation on or off the project site. Furthermore, in accordance with **MM 4.10-2**, the project would be required to prepare a Final Drainage Plan. Recommendations from the Final Drainage Plan would be incorporated into the final project design. Further, the project would be developed in accordance with the Kern County General Plan and Floodplain Management Ordinance.
Measure 13: On-site liquid waste disposal systems shall be designed and located in such a manner to prevent impairment to them, or contamination by them, during flooding, as approved by the Kern County Environmental Health Services Department.	Consistent	During construction activities, wastewater from portable toilet facilities and portable hand-washing facilities would be disposed of at an approved off-site disposal site. The Kern County Public Health Services Department/Environmental Health Services Division is responsible for monitoring the use of portable toilet facilities, and the project proponent would be required to provide documentation of a portable toilet pumping contract. The project would install a septic tank and leach system for each operation and maintenance building to manage sanitary waste. The septic systems would be constructed in accordance with Kern County Department of Public Health requirements.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 14: On-site waste disposal systems shall be designed and located to prevent impairment to them, or contamination by them, during flooding, as approved by the Kern County Environmental Health Services Department.	Consistent	See *Seismic / Safety Element*, Measure 13, of the Willow Springs Specific Plan above.
Measure 21: Detention basin/retention basin(s) will be required to retain the excess generated on-site flows under the proposed developed condition.	Consistent with implementation of **MM 4.10-2**.	See *Seismic / Safety Element*, Measure 9, of the Willow Springs Specific Plan above.
Measure 22: Detention/retention facilities store generated debris, reduce the peak storm runoff discharge, thus decreasing the size of downstream conveyance facilities. These basins shall be excavated below natural ground and shall not impound water above grade. Basins shall be buffered from adjacent residential development. Refer to Appendix I of the Environmental Impact Report [prepared for the Willow Springs Specific Plan] for recommended improvements for retention basins.	Consistent with implementation of **MM 4.10-2**.	See *Seismic / Safety Element*, Measure 9, of the Willow Springs Specific Plan above.
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. c) Routinely clean manholes and basins to remove sediment and debris.	Consistent with implementation of **MM 4.9-1**, **MM 4.10-1**, and **MM 4.10-2**.	See *1.10.6 Surface Water and Groundwater*, Policy 34, in **Table 4.11-2**, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
d) Source control surveys of all industrial facilities to determine possible contributors to stormwater pollution, especially those facilities at which storage or handling of hazardous or toxic chemicals takes place. e) Controlling washdown drainage from industrial facilities. In some cases, disposal to sanitary sewers may be required. f) Providing information to residents on disposal of petroleum waste, waste oil and grease, and pesticide containers. g) Carefully controlling pesticide and fertilizer usage.		
Air Quality Element		
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 with Implementation of **MM 4.3-1** through **MM 4.3-5**.	Air quality and GHG impacts are evaluated in **Section 4.3**, *Air Quality*, and **Section 4.8**, *Greenhouse Gas Emissions*, of this Draft EIR, respectively. Project construction activities would generate ambient PM_{10} concentrations that exceed the U.S. Environmental Protection Agency Significant Impact Level of 5 µg/m3 at the project fenceline. However, the project would not exceed the County's adopted thresholds for ROG, NO_X, CO, SO_2, PM_{10}, and $PM_{2.5}$. Furthermore, the project would implement **MM 4.3-1** through **MM 4.3-8** to reduce emissions of PM_{10} during construction, including diesel emission reduction strategies and compliance with EKAPCD Rules and Regulations for dust control. Although construction-related PM_{10} concentrations would remain significant and unavoidable after mitigation, the project considers air quality impacts and incorporates feasible measures to reduce air quality degradation consistent with the intent of this policy.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 1: Compliance with the Mitigation/Implementation Measures and enactment of an approved Air Quality Attainment Plan.	Consistent with implementation of **MM 4.3-1** through **MM 4.3-5**.	Air quality and GHG impacts are evaluated in **Section 4.3**, *Air Quality*, and **Section 4.8,** *Greenhouse Gas Emissions*, of this Draft EIR. Consistent with this policy, the project would implement **MM 4.3-1** through **MM 4.3-8**, 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. The project would be in compliance with all applicable EKAPCD 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. (See Environmental Impact Report Air Quality for additional recommended mitigation measures, page 161.)	Consistent with implementation of **MM 4.3-2**.	Consistent with this measure, the project would implement **MM 4.3-2**, which requires the preparation and implementation of a comprehensive Site-Specific Fugitive Dust Control Plan before the issuance of grading or building permits in order to control fugitive PM emissions during construction. See **Section 4.3**, *Air Quality*, of this Draft EIR.
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	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.
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 **MM 4.3-3**.	The project would implement **MM 4.3-3**, which is intended to limit diesel emission reductions during construction. **MM 4.3-3** requires that off-road equipment engines over 25 horsepower be equipped with EPA Tier 3 or higher engines if locally available. **MM 4.3-3** also outlines other specific measures to ensure that all equipment is used efficiently, such as reducing idling time and maintaining all equipment in accordance with the manufacturer's specifications. See **Section 4.3**, *Air Quality*, of this Draft EIR.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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.)	Consistent with implementation of **MM 4.3-1** through **MM 4.3-5**.	See *Air Quality Element,* Policy 1, of the Willow Springs Specific Plan above. Further, air quality impacts are evaluated in **Section 4.3**, *Air Quality*, of this Draft EIR.
Noise Element		
Goal 2: To minimize disruption to the quality of life resulting from excessive noise.	Consistent with implementation of **MM 4.13-1** through **MM 4.13-4**.	Noise impacts, sensitive receptors, and applicable noise thresholds are evaluated in **Section 4.13**, *Noise*, of this Draft EIR. As discussed in that section, noise impacts would be minimized with implementation of **MM 4.13-1** through **4.13-4**. Specifically, **MM 4.13-4** requires the project proponent to demonstrate, before issuance of building permits, that operational noise generated by the project would not exceed applicable noise standards at adjacent or nearby residentially zoned properties. This will be demonstrated through an acoustical study prepared by a qualified acoustical professional and approved by the County. To achieve compliance, the final project design may incorporate one or more noise attenuation measures that effectively reduce noise.
Goal 3: To maintain reasonable noise level standards, consistent with the Kern County Noise Element.	Consistent	As discussed in **Section 4.13**, *Noise*, of this Draft EIR, the 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 with implementation of **MM 4.13-1** through **MM 4.13-4**.	See *Noise Element*, Goal 2 and Goal 3, of the Willow Springs Specific Plan, above.
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:	Consistent with implementation of **MM 4.13-4**.	See *Noise Element*, Goals 2 and 3, of the Willow Springs Specific Plan, above. Consistent with this policy, the project would implement **MM 4.13-4,** which requires the project proponent to prepare an acoustical study demonstrating that operational noise generated by the project would not exceed applicable noise standards at adjacent or nearby residentially zoned properties. Noise-related impacts are discussed in **Section 4.13**, *Noise*, of this Draft EIR.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

<table>
<tr><th>Goals and Policies</th><th>Consistency Determination</th><th>Project Consistency</th></tr>
<tr><td>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.</td><td></td><td></td></tr>
<tr><td>Policy 4: The policies of the Kern County Noise Element are hereby adopted by reference.</td><td>Consistent with implementation of MM 4.13-4.</td><td>See Section 3.2, Noise Sensitive Areas, Measure A, in Table 4.11-2 above.</td></tr>
<tr><td>Measure 1: The following standards are established as the maximum desired ambient noise levels. Noise shall be attenuated so as not exceed these standards.
<table>
<tr><th></th><th colspan="2">L_{50} dB(A) L_{dn}</th><th rowspan="2">CNEL</th></tr>
<tr><th></th><th>Day</th><th>Night</th></tr>
<tr><td>Insensitive Uses</td><td>65</td><td>60</td><td>75</td></tr>
<tr><td>Moderately Sensitive Uses</td><td>60</td><td>55</td><td>70</td></tr>
<tr><td>Sensitive Uses</td><td>55</td><td>45</td><td>65</td></tr>
<tr><td>Highly Sensitive Uses</td><td>50</td><td>40</td><td>60</td></tr>
</table></td><td>Consistent with implementation of MM 4.13-1 through MM 4.13-4.</td><td>Consistency with the Willow Springs Specific Plan maximum ambient noise levels is evaluated in Section 4.13, Noise, of this Draft EIR. See Noise Element, Goal 2 and Goal 3, of the Willow Springs Specific Plan, above.</td></tr>
</table>

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 2: The implementation measures of the Kern County Noise Element are hereby adopted by reference.	Consistent with implementation of **MM 4.13-4**.	This section of the Draft EIR discusses the land uses proposed by the project. As discussed in **Section 4.13**, *Noise*, of this Draft EIR, project would be consistent with existing land use and zoning designations of the project site. The project would be consistent with implementation measures of the Kern County Noise Element. See Section 3.2, *Noise Sensitive Areas*, Measure A, of the Kern County General Plan in **Table 4.11-2** above.
Measure 3: The Kern County Environmental Health Services Department, upon obtaining a referral from the Board of Supervisors or a lead agency, instigate noise monitoring studies, deemed warranted, and recommend necessary adjustments to noise contour data.	Consistent with implementation of **MM 4.13-1** through **MM 4.13-4**.	See *Noise Element*, Goal 2 and Goal 3, of the Willow Springs Specific Plan, above.
Measure 9: In conjunction with building permit applications, individual project applicants shall prepare and submit detailed acoustical reports as determined appropriate by the County on a project-by-project basis.	Consistent with implementation of **MM 4.13-1** through **MM 4.13-4**.	See *Noise Element*, Goal 2 and Goal 3, of the Willow Springs Specific Plan, above.
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 **MM 4.15-1**.	As discussed in **Section 4.15**, *Transportation*, of this Draft EIR, the project would construct internal access roads in accordance with Caltrans and Kern County requirements. The project would not permanently alter the local circulation system in a manner that would impede enforcement or fire protection vehicle access. The project site is not located on an identified emergency evacuation route and is not identified in any adopted emergency evacuation plan. However, oversized vehicles or transport loads could temporarily interfere with emergency response or emergency evacuation procedures by causing intermittent delays associated with reduced roadway capacity, sudden stops, or vehicle queuing. The project would be required to comply with all applicable emergency access requirements established by KCFD, including maintaining emergency vehicle access at all times. In addition, **MM 4.15-1** would require preparation and implementation of a construction Traffic Control Plan that addresses emergency vehicle access, oversized vehicles or loads, traffic control measures, and coordination with applicable agencies.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Goal 7: To provide an adequate circulation system which will support the proposed land uses.	Consistent with implementation of **MM 4.15-1**.	See Chapter 2, *Circulation Element*, Goal 5 and Policy 1, of the Kern County General Plan in **Table 4.11-2** above.
Policy 7: Require the widening of impacted roadways to handle increased traffic generated by new development.	Consistent with implementation of **MM 4.15-1**.	The increased project-related traffic would not cause a significant permanent increase in congestion and/or significantly worsen the existing service levels at intersections on area roads, therefore not necessitating the widening of roadways. As identified in **MM 4.15-1**, the project would temporarily convert the intersection of 170th Street West and Avenue A from a two-way stop control to an all-way stop control during the PM construction worker commute periods. Converting the intersection to an all-way stop control would ensure that it operates at acceptable levels. Therefore, the project would be consistent with this policy. **Section 4.15**, *Transportation*, of this Draft EIR, discusses transportation-related impacts in more detail.
Policy 8: Encourage resourceful air quality improvement and reduction methods.	Consistent with implementation of **MM 4.3-1** through **MM 4.3-8**.	See **Section 4.3**, *Air Quality*, of this Draft EIR and Section 1.10.2, *Air Quality*, Policy 18, of the Kern County General Plan in **Table 4.11-2** above.
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	Traffic impacts are evaluated in **Section 4.15**, *Transportation*, of this Draft EIR, which is based primarily on information provided in the *Transportation Impact Study* (**Appendix K1**), *Construction Vehicle Miles Traveled Study* (**Appendix K2**), and the *Construction Level of Service Study* (**Appendix K3**), prepared for the project in a manner that is consistent with the requirements of Kern County, Caltrans, and the Willow Springs Specific Plan. Therefore, the project is consistent with this measure.
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 adhere to the requirements of the Willow Springs Traffic Impact Fee Program, as applicable.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Water Quality and Availability Element		
Goal 1: To ensure that new developments are provided with an adequate water supply and wastewater disposal/treatment facilities.	Consistent with the implementation of **MM 4.17-1.**	Public utility impacts are evaluated in **Section 4.17**, *Utilities and Service Systems*, of this Draft EIR. As described therein, there is sufficient water available to meet the future water demands of the project during normal, single dry, and multiple dry years over a 20-year projection and the 38-year life of the project. In addition, the project would implement **MM 4.17-1**, requiring the project proponent to obtain written documentation demonstrating sufficient water supplies have been secured for all phases of the project. Impacts related to water supply were determined to be less than significant in this Draft EIR. Therefore, the project would be consistent with this goal.
Policy 1: Water supply method and wastewater disposal/treatment facility shall be as required by Kern County.	Consistent with the implementation of **MM 4.17-1**.	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 with the implementation of **MM 4.17-1**.	See *Water Quality and Availability*, Goal 1, of the Willow Springs Specific Plan, above.
Measure 4: The individual project applicants shall adhere to the following guidelines as established by the Department of Water Resources for flood damage prevention: • As State policy includes the conservation of water, any potential loss to groundwater shall be mitigated. • All building structures shall be protected against a 100-year flood. • In those areas not covered by a Flood Insurance Rate Map or Flood Boundary and Floodway Map, issued by the Federal Emergency Management Agency, the 100-year flood elevation and boundary shall be shown in the project-specific Environmental Impact Report.	Consistent with the implementation of **MM 4.10-1** and **MM 4.10-2**.	Hydrology and water quality impacts are evaluated in **Section 4.10**, *Hydrology and Water Quality*, of this Draft EIR. Development of on-site stormwater controls, including detention basins and retention basins, would be incorporated into the project. Impacts related to flooding would be reduced with the implementation of **MM 4.10-1** and **MM 4.10-2**, which require the preparation and implementation of a SWPPP and a Final Drainage Plan. The SWPPP would include stormwater BMPs that address erosion and sediment control, and the Final Drainage Plan requires that grading for the project facilities does not alter the ground surface in a manner that would increase flooding.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
• At least one route of ingress and egress to the individual developments shall be available during the 100-year flood. • The slope and foundation designs for all structures shall be based on detailed soils and engineering studies. • Revegetation of disturbed or newly constructed slopes shall be completed as early as possible (utilizing native or low-water-using material). • The potential damage to the proposed individual developments by mudflow shall be assessed and mitigated on a project-by-project basis. • Grading for the individual projects shall be limited to dry months to minimize problems associated with sediment transport during construction.		
Cultural Resources Element		
Goal 1: To preserve cultural resources contained on sensitive sites located within the Willow Spring Specific Plan area.	Consistent with implementation of **MM 4.5-1** through **MM 4.5-5**.	Cultural resources impacts are evaluated in **Section 4.5,** *Cultural Resources*, of this Draft EIR. This Draft EIR serves to comply with this goal and includes **MM 4.5-1** through **MM 4.5-5** to promote the preservation of cultural and historic resources where necessary.
Policy 2: Recorded archaeological sites shall be subjected to individual studies prior to development.	Consistent	See *Cultural Resources*, Policy 1, of the Willow Springs Specific Plan above.
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.	Consistent	Cultural resources impacts are evaluated in **Section 4.5,** *Cultural Resources*, of this Draft EIR and the information used in that section is based on the *Cultural Resources Assessment for the Euismod Project Site* (**Appendix D**) completed for the project prior to development. Therefore, the project is consistent with this measure.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 2: Prior to grading permit issuance, a recorded archaeological site found on a specific property propose for development shall be subjected to individual study prepared at the expense of the developer by qualified historian. Surface collection, text excavation, and laboratory analysis constitute procedure necessary to properly assess both the significance and the research potential of each individual resource.	Consistent	See *Cultural Resources*, Measure 1, of the Willow Springs Specific Plan above.
Measure 3: Larger "village" sites, such as CA-KER-129, cemeteries, and other sites of religious significance, may be found within the Study Area and would require more intensive investigation and more complete preservation.	Consistent with implementation of **MM 4.5-1** through **MM 4.5-5**.	See *Cultural Resources*, Policy 1, of the Willow Springs Specific Plan above.
Biological Resources Element		
Goal 1: Preserve biological resources within the Specific Plan area.	Consistent with implementation of **MM 4.4-1** through **MM 4.4-20**.	Biological resource impacts are evaluated in **Section 4.4**, *Biological Resources*, of this Draft EIR. This Draft EIR serves to comply with this policy and reduce potential impacts with the implementation of mitigation measures **MM 4.4-1** through **MM 4.4-20**. 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 was being gathered. Specifically, the Notice of Preparation for this Draft EIR was sent to State and federal agencies requesting their input on the biological resource evaluation. Similarly, this Draft EIR will also be circulated to these agencies, and staff will have the opportunity to comment on the biological resources evaluation. Therefore, the County is complying with this policy for the project.
Policy 1: Where possible, development shall be designed to avoid displacement of sensitive species.	Consistent with implementation of **MM 4.4-1** through **MM 4.4-18**.	Special status species are evaluated in **Section 4.4**, *Biological Resources*, of this Draft EIR. Implementation of **MM 4.4-1** through **MM 4.4-18** includes the use of a Lead Biologist that will oversee the use of BMPs, revegetation plans, weed control plans, and will conduct preconstruction surveys for various sensitive species in order to avoid displacement of sensitive species, where possible.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 2: Focused surveys shall be conducted by a County-approved biologist to establish the presence or absence of sensitive species.	Consistent with implementation of **MM 4.4-5, MM 4.4-8** through **MM 4.4-13,** and **MM 4.4-17**.	Biological resources are discussed in **Section 4.4**, *Biological Resources*, of this Draft EIR. As discussed therein and consistent with this policy, focused surveys were conducted for multiple sensitive status species, including Western burrowing owl, Swainson's hawk, and Crotch's bumble bee. In addition, the project would conduct pre-construction surveys as outlined in **MM 4.4-5**, **MM 4.4-8** through **MM 4.4-13**, and **MM 4.4-17**.
Policy 3: Initial development within the Update area shall, when possible, be directed towards previously impacted areas (i.e., agricultural fields).	Consistent	See *Resources*, Policy 2, of the Willow Springs Specific Plan above.
Measure 1: Plants protected by the California Desert Native Plants Act shall be preserved to the satisfaction of the Director of the Kern County Department of Planning and Development Services. Property owners should be encouraged to replant any plants which are unavoidably displaced.	Consistent with the implementation of **MM 4.4-6** and **MM 4.4-7**.	California Desert Native Plants Act species are evaluated in **Section 4.4**, *Biological Resources*, of this Draft EIR. In accordance with the California Desert Native Plants Act and consistent with this measure, the project would implement **MM 4.4-6** and **MM 4.4-7**. The project proponent/operator would pay required fees for the removal of silver cholla and consult with CDFW and obtain an incidental take permit for any impacted western Joshua trees. Prior to the issuance of a grading permit, the project proponent/operator shall develop a Joshua Tree Preservation Plan, or other similar plan, as required by any incidental take permit issued to the project by CDFW. At a minimum, the Plan shall identify the methods utilized, as applicable, that the project is taking to comply with any CESA or CDFW take requirements, trees to be relocated, relocation procedures, receiving locations, and compensatory mitigation related to the protection or mitigation of impacted Joshua trees.

Section 4.12

Mineral Resources

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Section 4.12
Mineral Resources

4.12.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the affected environment and regulatory setting for mineral resources. It also describes potential impacts on mineral resources that could result from implementing the project, and mitigation measures that would reduce these impacts, if applicable.

State law defines "minerals" as "[a]ny naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances, including, but not limited to, coal, peat, and bituminous rock, but excluding geothermal resources, natural gas, and petroleum" (14 California Code of Regulations [CCR] Section 3501). For purposes of this Draft EIR, "minerals" are defined as also including oil and gas resources.

Sources of information used to prepare this section include the California Department of Conservation (DOC), the California Geological Survey (CGS), and Kern County publications and maps, as cited.

4.12.2 Environmental Setting

Public policy requires the protection of access to important mineral resources and the evaluation and mitigation of a project's impacts regarding access to such resources. Management of these mineral resources protects not only the future development of mineral deposit areas but also limits the exploitation of mineral deposits so that adverse impacts caused by mineral extraction can be avoided or reduced. This section discusses the existing conditions related to mineral resources within the vicinity of, and at, the project site.

Regional Setting

Mineral and petroleum resources are critical to the economy of Kern County, as it is ranked 14th among oil-producing counties nationwide—producing 227,000 barrels of oil daily and 83 million barrels of oil annually (KEDC 2026). Borax, cement, and construction aggregates also constitute major economic mineral resources for Kern County.

The Surface Mining and Reclamation Act of 1975 (SMARA) requires the State Geologist to classify land into Mineral Resource Zones (MRZs) according to its known or inferred mineral potential. The primary goal of mineral land classification is to help ensure that the mineral resource potential of land is recognized and considered in the land use planning process. MRZ categories are defined as follows:

- **MRZ-1:** Areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-2a:** Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present, by evidence such as drilling records, sample analysis, surface exposure, and mine information. Land classified as MRZ-2a is of prime importance because it contains known economic mineral deposits.

- **MRZ-2b:** Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present, as determined by their lateral extension from proven deposits or their similarity to proven deposits. Further exploration could result in upgrading these areas from MRZ-2b to MRZ-2a.
- **MRZ-3a:** Areas containing known mineral occurrences of undetermined economic significance. Further exploration could result in reclassification of all or part of these areas to MRZ-2a or MRZ-2b.
- **MRZ-3b:** Areas containing inferred mineral occurrences of undetermined economic significance. Further exploration could result in the reclassification of all or part of these areas to MRZ-2a or MRZ-2b.
- **MRZ-4:** Areas containing no known mineral occurrence.

The State Geologist has classified 2,971 square miles of land in Kern County as MRZs of varying significance. Mineral resources in Kern County include 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. Significant mineral resources located in southeastern Kern County include borates, limestone, gold, and dimension stone (CGS 1999). **Table 4.12-1,** *Classified Mineral Resources within Kern County*, discusses the classified mineral resources within Kern County that are part of the MRZ-2 group and, therefore, have a demonstrated mineral significance (as opposed to the MRZ-3 group, which has an undetermined mineral significance).

TABLE 4.12-1: CLASSIFIED MINERAL RESOURCES WITHIN KERN COUNTY

Mineral Resource	MRZ Classification	Number of Areas	Total Acreage
Borates	MRZ-2a and 2b	2	2,564
Limestone	MRZ-2a	4	2,008
	MRZ-2b	2	157
Silica	MRZ-2a	1	119
Pozzolan (essential cement additive)	MRZ-2b	1	72
Gold	MRZ-2a	3	849
Gold	MRZ-2b	8	6,619
Dimension Stone	MRZ-2a	2	527

Source: CGS 1999.

Petroleum Resources

Kern County produces more oil than any other county in California (KEDC 2026). Oil and gas production is concentrated primarily in the valley floor and lower-elevation foothill regions of western and southwestern Kern County, where extensive petroleum-bearing geologic formations have been developed for decades. The project site, however, is not located within a known oil or gas field, and no active, idle, or abandoned wells are present within the project boundaries (CalGEM 2024).

The project site is not on land designated Map Code 8.4 – Mineral or Petroleum under the Kern County General Plan (KCGP), nor is it zoned NR (Natural Resources) or PE (Petroleum Extraction), which are the zoning districts typically associated with active resource production.

Sand and Gravel

Construction aggregates are a major mineral resource for Kern County (CGS 1999). Sand and gravel are important resources for construction, development, and physical maintenance, from highways and bridges to swimming pools and playgrounds. The availability of sand and gravel affects construction costs, tax rates, and the affordability of housing and commodities, and the State of California legally requires the protection of sand and gravel operations. Because transportation costs are a significant portion of the cost of sand and gravel, the long-term availability of local sources is an important factor in maintaining the economic attractiveness of the community to residents, businesses, and industry. The major resources of sand and gravel in Kern County are in stream deposits along the eastern side of the San Joaquin Valley and in the Sierra Nevada foothills, approximately 185 miles west and north of the project site, and in alluvial fan deposits along the north flank of the San Emidio and Tehachapi Mountains at the southern end of Kern County, located northwest of the project site. Most of the recent alluvium in the San Joaquin Valley floor is composed of sand used as a source of road base material. There are no sand and gravel extraction activities located on the project site.

Borax

Borax constitutes a major mineral resource for Kern County (CGS 1999). The borate mineral—a compound that contains Boron and oxygen—was discovered and put into production in Nevada in 1872 and then later in Death Valley (in 1881). Ironically, for five years, the route traveled by Pacific Coast Borax Company's famous 20-mule team trains passed within 15 miles of a buried deposit that would produce the equivalent tonnage hauled by the mule team during each trip—in about 6 minutes. Borates was discovered accidently in southeastern Kern County in the Kramer District, when a water well penetrated lakebeds containing colemanite (calcium borate) in 1913. Underground mining of the minerals kernite and borax began in 1927 and continued until 1957, when underground operations ceased and open-pit mining began, eventually becoming the largest open-pit mine in California. Over 1.8 million tons are removed annually from this mine, which supplies about 40 percent of the world's supply of borates, and there are several other sources of borate minerals in Kern County (CGS 1999). There are no borax extraction activities located in or adjacent to the project site.

Limestone

Carbonate rocks were initially quarried in 1888 as a source of lime. By 1909, the limestone resources were used for the manufacture of Portland cement during the construction of the first Los Angeles aqueduct. Limestone has been mined continuously since 1921, just northeast of Tehachapi, for the manufacture of Portland cement. The Tehachapi Plant was joined by California Portland Cement Company's Mojave Plant in 1955 and National Cement Company's Lebec Plant in 1976, making Portland cement production second only to borates in terms of economic importance to the region. Cement production is a major economic resource in Kern County (CGS 1999). There are no limestone quarries located in or adjacent to the project site.

Dimension Stone

Dimension stone is defined as natural rock materials quarried for the purpose of obtaining blocks or slabs that meet specifications for size (width, length, thickness) and shape. Color, grain, texture, pattern, surface finish, durability, strength, and ability to polish are important selection criteria in determining dimension stone. Deposits of marble, sandstone, schist, and other rocks in Kern County have been sources of modest tonnages of building stone that have been utilized as dimension stone, field stone, rubble, and flagstone.

Most of the dimension stone (marble and flagstone) was mined until 1904; field stone and flagstone have been mined mostly since about 1952 in the area around Randsburg (CGS 1999). There are no dimension stone quarries located in or adjacent to the project site.

Precious Minerals (Gold and Silver)

In terms of total dollar value and number of deposits, gold is the most important metallic mineral commodity that has been mined in Kern County. The earliest mining in Kern County was in 1851 at placer gold deposits in Greenhorn Gulch, which drains into the Kern River about midway between Democrat Springs and Miracle Hot Springs. The first lode mining was in 1852 and by 1865, gold was being mined in four districts around the Kern River. Gold was first prospected in eastern Kern County in the 1860s, with the two largest mines being established in the 1890s. The Yellow Aster and Golden Queen mines located in eastern Kern County have yielded almost half of the total gold output of Kern County. The principal sources of silver have been deposits in eastern Kern County. Although gold is the chief mineral in value, silver is predominant by a 5:1 ratio and is an important by-product of the gold ore (CGS 1999). There are no precious mineral mining activities located in or adjacent to the project site.

Local Setting

The project site is at the northern edge of the Antelope Valley in Kern County, approximately 8 miles west of the community of Rosamond. The project site and surrounding areas are primarily characterized as creosote bush scrub and are interspersed with existing solar and wind energy generation facilities, communications infrastructure, and agricultural land uses.

Based on a review of the Kern County Interactive County Map (GIS Tool) and data from the Department of Conservation, the project site, including the tie-lines and Whirlwind Substation, is not located on land classified as MRZ-1 or MRZ-2 (Kern County 2026; DOC 1999). While the KCGP does not designate "mineral recovery areas," it does identify areas of importance for mineral exploration as Map Code 8.4 – Mineral and Petroleum. As discussed in **Chapter 3**, *Project Description*, the project is not within or immediately adjacent to land designated Map Code 8.4 – Mineral and Petroleum. Additionally, the project is not zoned NR (Natural Resources) or PE (Petroleum Extraction), which are the zoning designations typically associated with active mineral or petroleum resource production.

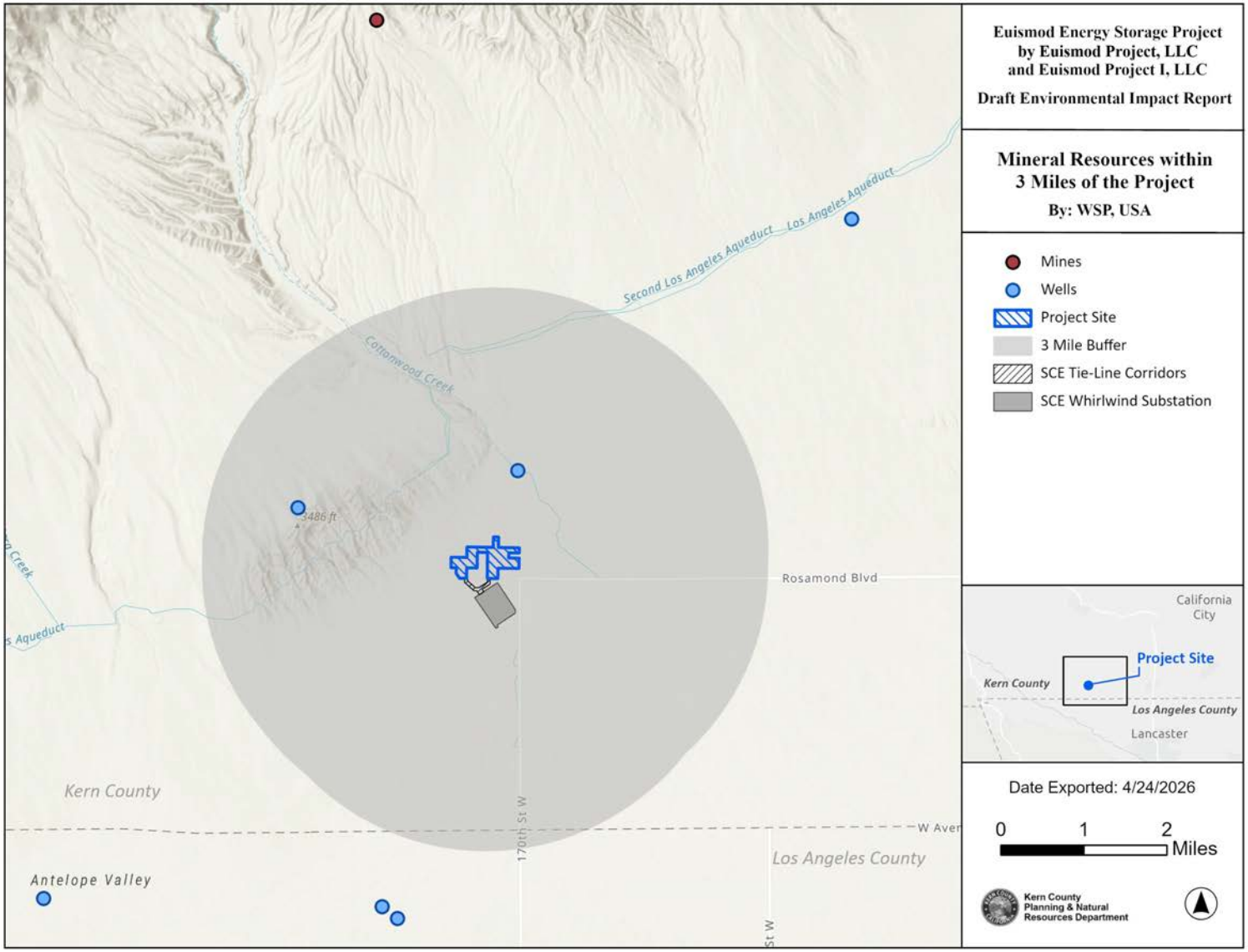
There are no active or idle oil and gas wells or active mining or petroleum extraction operations within or adjacent to the project site (CalGEM 2024, DOC 2016). The nearest active mine is the 765-acre open-pit limestone Calcite Quarry approximately 7 miles northwest of the project site (DOC 2016). All oil and gas wells within a 3-mile radius of the project site are presented in **Figure 4.12-1,** *Mineral Resources within 3 Miles of the Project*, and detailed in **Table 4.12-2,** *Mineral Resources within 3 Miles of the Project*.

TABLE 4.12-2: MINERAL RESOURCES WITHIN 3 MILES OF THE PROJECT

Site Name	Status	Primary Commodities	Distance to the Project Site
Lease by Meridian Oil Company, Ltd.	Plugged Well	Dry Hole	1 mile north
Laura	Plugged Well	Oil and Gas	2 miles northwest

Source: CalGEM 2024.

Figure 4.12-1: Mineral Resources Within 3 Miles of the Project



4.12.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

Geologic Energy Management Division (formerly Division of Oil, Gas, and Geothermal Resources)

California Geologic Energy Management (CalGEM) is a State agency responsible for regulating California's oil, gas, and geothermal industries with a focus on public health, safety, and environmental protection through science and sound engineering, supporting the State's energy needs and climate commitments. CalGEM oversees the drilling, operation, maintenance, plugging, and abandonment of oil, gas, and geothermal wells pursuant to California Code of Regulations, Title 14, Division 2, Chapter 4, which includes well design and construction standards, production equipment and pipeline requirements, and well abandonment procedures and guidelines (CalGEM 2026).

Surface Mining and Reclamation Act of 1975

SMARA (Public Resources Code, Sections 2710-2796) regulates surface mining operations to ensure that adverse environmental impacts are minimized and that mined lands are reclaimed to a usable condition. SMARA requires the State Geologist to classify land into MRZs according to its known or inferred mineral potential. The primary products are mineral land classification maps and reports. Local agencies are required to use the classification information when developing land use plans and when making land use decisions (CGS 1999). MRZs are defined in detail in **Section 4.12.2**, *Regional Setting*, above.

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to mineral resources. The goals, policies, and implementation measures in the KCGP and the Willow Springs Specific Plan related to mineral resources that are applicable to the project are provided below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for mineral resources applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009). Mineral and petroleum resources are foundational to Kern County's economy, and the KCGP identifies areas that contain producing or potentially productive petroleum fields, natural gas, and mineral deposits

of regional and statewide significance. The KCGP delineates these areas under Map Code 8.4 (Mineral and Petroleum), which is applied to:

> *…[A]reas which contain producing or potentially productive petroleum fields, natural gas, and geothermal resources, and mineral deposits of regional and Statewide significance. Uses are limited to activities directly associated with the resource extraction. Uses shall include, but are not limited to, the following: Mineral and petroleum exploration and extraction, including aggregate extraction; extensive and intensive agriculture; mineral and petroleum processing (excluding petroleum refining); natural gas and geothermal resources; pipelines; power transmission facilities; communication facilities; equipment storage yards; and borrow pits.*

The project site, including the tie-lines and Whirlwind Substation, is not located within an area designated as Map Code 8.4 (Mineral and Petroleum).

Chapter 1. Land Use, Open Space and Conservation Element

1.9 Resource

Goals

Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations that will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources or diminish the other amenities that exist in the County.

Goal 2: To protect areas of important mineral, petroleum, and agricultural resource potential for future use.

Goal 3: To ensure that the development of resource areas minimizes effects of neighboring resource lands.

Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

Policies

Policy 14: Emphasize conservation and development of identified mineral deposits.

Policy 17: Lands classified as MRZ-2, as designated by the State of California, should be protected from encroachment of incompatible land uses.

Policy 25: Discourage incompatible land use adjacent to Map Code 8.4 Mineral and Petroleum areas.

Implementation Measures

Measure H: Use the California Geological Survey's latest maps to locate mineral deposits until the regional and statewide importance mineral deposits map has been completed, as required by the Surface Mining and Reclamation Act.

Measure I: Periodically review the Zoning Ordinance to reflect new technology and energy sources and encourage these types of uses for new development.

Measure K: Protect oilfields and mineral extraction areas through the use of appropriate implementing zone districts: A (Exclusive Agriculture), DI (Drilling Island), NR (Natural Resource), or PE (Petroleum Extraction).

Willow Springs Specific Plan

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). 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 KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for mineral resources applicable to the project are provided below. The Willow Springs Specific Plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated in **Chapter 2**, *Introduction*, all goals, policies, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Land Use Element

Resource

Goals

Goal 1: To achieve compatibility of adjacent land uses within the plan area.

Goal 2: To establish zoning which is consistent with present and future intended land use.

Open Space/Conservation Element

Goals

Goal 1: Resource lands should be maintained in an undeveloped state until lands more suitable for development have been made use of.

Policies

Policy 1: The policies stated for the Land Use Element sections regarding physical constraints, public facilities, and resource lands shall also apply to this section.

4.12.4 Impacts and Mitigation Measures

Methodology

The project's potential impacts on mineral resources have been evaluated using a variety of sources, including a review of information from the DOC, the CGS, and Kern County publications and maps, as cited throughout this section. Using the aforementioned resources and professional judgment, impacts were analyzed according to the California Environmental Quality Act (CEQA) significance criteria described below.

Thresholds of Significance

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

A project would have a significant adverse effect on mineral resources if it does either of the following:

a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State.

b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Project Impacts

Impact 4.12-1: Would the project result in the loss of availability of a known mineral resource that would be of value to the region and residents of the State?

Project activities could result in the temporary or permanent loss of availability of mineral resources if project development prevents access to or extraction of those resources. As described above, the project site is not located on or immediately adjacent to lands designated Map Code 8.4 – Mineral and Petroleum or zoned NR (Natural Resources) or PE (Petroleum Extraction) by the KCGP. Additionally, the project site is not classified as MRZ-1 or MRZ-2 by the DOC.

There are no active or inactive mines or extraction facilities on the project site or in the immediate vicinity. The nearest active mine is the 765-acre open-pit limestone Calcite Quarry approximately 7 miles northwest of the project site (DOC 2016). At this distance, project construction and operations would not interfere with any existing mineral extraction operations at the Calcite Quarry and would not result in the loss of land designated for mineral resources. Further, based on the absence of historical surface mining in the project area, the potential for surface mining at the project site is considered low. As such, the project would not result in the loss of availability of or access to a known mineral resource of value to the region or residents of the State. Thus, impacts would be less than significant.

SCE Whirlwind Substation Upgrades

The project includes two 220-kilovolt (kV) overhead tie-lines to the Southern California Edison (SCE) Whirlwind Substation located on the adjacent parcels to the south of the project site. SCE's work activities outside of the Whirlwind Substation include tie-line access clearing, installation of telecommunications lines, installation of tie-line support poles or towers, stringing of overhead conductors, and operation and maintenance of the tie-lines to the Point of Change of Ownerships. Within the existing Whirlwind Substation, each tie-line would require the installation of facilities for a new 220 kV switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3**, *Project Description*.

As with the project site, the proposed improvements associated with the SCE Whirlwind Substation improvements and tie-lines are not located on land designated as MRZ-1 or MRZ-2, Map Code 8.4 – Mineral and Petroleum, or zoned NR (Natural Resources) or PE (Petroleum Extraction). There are no active or inactive mines or extraction facilities on the project site or in the immediate vicinity. Further, based on the absence of historical surface mining in the project area, the potential for surface mining at the project site is considered low. As such, the upgrades would not result in the loss of availability of or access to a known mineral resource of value to the region or residents of the State. Thus, impacts would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.12-2: Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The KCGP does not designate "mineral recovery areas," and instead maps mineral resource areas as Map Code 8.4 – Mineral and Petroleum. The project site is not designated Map Code 8.4 – Mineral and Petroleum or zoned NR (Natural Resources) or PE (Petroleum Extraction). Therefore, the project site is not located on land designated for important mineral resources by the KCGP or Willow Springs Specific Plan. Implementation of the project would not directly or indirectly conflict with any local general plan, specific plan, or other land use plan. In addition, because the life expectancy of the project is approximately 35 years, access to any mineral resources that may be identified at the site in the future would not be permanently lost or impacted. Therefore, the loss of availability of a locally important mineral resource would be less than significant.

SCE Whirlwind Substation Upgrades

As discussed above, the proposed improvements associated with the Whirlwind Substation and tie-lines are not located on land designated as MRZ-1 or MRZ-2, Map Code 8.4 – Mineral and Petroleum, or zoned NR (Natural Resources) or PE (Petroleum Extraction). Additionally, there are no active or inactive mines or extraction facilities on or in the immediate vicinity of the SCE Whirlwind Substation. The nearest active mine is the 765-acre open-pit limestone Calcite Quarry approximately 7 miles northwest of the substation (DOC 2016). As such, the upgrades would not result in the loss of availability of or restrict access to minerals considered of value to Kern County; impacts would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Impacts would be less than significant.

4.12.5 Cumulative Setting, Impacts, and Mitigation Measures

There are five projects in Kern County considered in the cumulative analysis, as listed in **Table 3-4,** *Cumulative Projects List*. The geographic scope of impacts associated with mineral resources generally encompasses the project site and a 0.25-mile radius. This scope is appropriate because of the localized nature of mineral resource impacts.

Based on a review of the cumulative projects identified in **Chapter 3**, *Project Description*, none are within 0.25 miles of the project site. Furthermore, the project site is not located in or within a 0.25-mile radius of

land designated as MRZ-1 or MRZ-2, Map Code 8.4 – Mineral and Petroleum, or zoned NR (Natural Resources) or PE (Petroleum Extraction). There are no active or inactive mines or extraction facilities on or within 0.25 miles of the project site. In addition, because the life expectancy of the project is approximately 35 years, access to any mineral resources that may be identified at the site in the future would not be permanently lost or impacted. As a result, the project, in conjunction with other related projects, would not result in the loss of availability of a known mineral resource or a locally important mineral resource recovery site and would not contribute to cumulative impacts on mineral resources.

SCE Whirlwind Substation Upgrades

The proposed improvements associated with the SCE Whirlwind Substation improvements and tie-lines are not located on land designated as MRZ-1 or MRZ-2, Map Code 8.4 – Mineral and Petroleum, or zoned NR (Natural Resources) or PE (Petroleum Extraction). Furthermore, there are no active or inactive mines or extraction facilities on or within 0.25 miles of the tie-lines and Whirlwind Substation. The proposed improvements associated with the Whirlwind Substation improvements and tie-lines do not have the potential to restrict access to or extraction of mineral resources. Therefore, the proposed improvements, in conjunction with other related projects, would not result in the loss of availability of a known mineral resource or a locally important mineral resource recovery site and would not contribute to any cumulative impacts to mineral resources.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Cumulative impacts would be less than significant.

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Section 4.13
Noise

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Section 4.13
Noise

4.13.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the affected environment and regulatory setting for noise and provides an analysis of potential impacts related to noise and ground-borne vibration that would result from implementing the project, and identifies mitigation measures to avoid, minimize, and/or mitigate potential noise and vibration impacts, where applicable.

The information and analysis in this section are based on the *Noise Impact Assessment Report* (**Appendix I**) and the *Traffic Impact Study* (**Appendix K1**) for the project.

Noise Fundamentals

An understanding of the physical characteristics of sound is useful for evaluating environmental noise. The methods and metrics used to quantify noise exposure, human response, and relative judgment of loudness are also discussed in this section, 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)
- Physical effects (hearing loss)

Although exposure to high noise levels has been demonstrated to cause physical (to the body itself) and physiological (to body functions) effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. The subjective responses of individuals to similar noise events are diverse and influenced by many factors, including the type of noise, the perceived importance of the noise, its appropriateness to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity.

Interference effects of environmental noise refer to those effects that interrupt daily activities and include interference with human communication activities, such as normal conversations, watching television, and telephone conversations, and interference with sleep. Sleep interference effects can include both awakening from sleep and arousal to a lesser state of sleep.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Sound is generally characterized by several variables, including frequency and amplitude. Frequency describes the sound's pitch (tone) and is measured in cycles per second (hertz [Hz]), while amplitude describes the sound's pressure (loudness). Because the range of sound pressures that occurs in the environment is extremely large, it is convenient to express these pressures on a logarithmic scale that compresses the wide range of pressures into a more useful range of numbers. The standard unit

of sound measurement is the decibel (dB). Hz is a measure of how many times each second the crest of a sound pressure wave passes a fixed point. For example, when a drummer beats a drum, the skin of the drum vibrates a given number of times per second. If the drum vibrates 100 times per second, it generates a sound pressure wave that is oscillating at 100 Hz, and this pressure oscillation is perceived by the ear/brain as a tonal pitch of 100 Hz. Sound frequencies between 20 and 20,000 Hz are within the range of sensitivity of the healthy human ear.

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 micro pascals (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 (that is, sound carries farther) at high humidity and high temperatures, and lower frequencies are less readily absorbed (that is, 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 broadband of 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. Ambient sounds generally range from 30 dB

(very quiet) to 100 dB (very loud). As shown in **Table 4.13-1,** *Noise Perceptibility*, 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.

TABLE 4.13-1: NOISE PERCEPTIBILITY

Noise Level	Listener Perception
± 3 dB	Threshold of human perceptibility
± 5 dB	Clearly noticeable change in noise level
± 10 dB	Half or twice as loud
± 20 dB	Much quieter or louder

Source: Kern County Planning and Natural Resources Department 2021

Key: dB = decibels

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 (for example, 60 dBA + 60 dB = 63 dBA; 80 dBA + 80 dBA = 83 dBA). However, an increase of 10 dBA is required to double the perceived loudness of a sound, and a doubling or halving of the acoustical energy (a 3 dBA difference) is at the lower limit of readily perceived change.

Although dBA may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most ambient environmental noise includes a mixture of noise from nearby and distant sources that creates an ebb and flow of sound, including some identifiable sources plus a relatively steady background noise in which no particular source is identifiable. A single descriptor, termed the equivalent sound level (L_{eq}), is used to describe sound that is constant or changing in level. L_{eq} is the energy-mean dBA during a measured time interval. It is the "equivalent" sound level produced by a given constant source equal to the acoustic energy contained in the fluctuating sound level measured during the interval. In addition to the energy-average level, it is often desirable to know the acoustic range of the noise source being measured. This is accomplished through the maximum instantaneous (L_{max}) and minimum instantaneous (L_{min}) noise level indicators that represent the root-mean-square maximum and minimum noise levels measured during the monitoring interval. The L_{min} value obtained for a particular monitoring location is often called the acoustic floor for that location.

To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors L_{10}, L_{50}, and L_{90} may be used, which represent the noise levels equaled or exceeded during 10 percent, 50 percent, and 90 percent of the measured time interval, respectively. Sound levels associated with L_{10} typically describe transient or short-term events, L_{50} represents the median sound level during the measurement interval, and L_{90} levels are typically used to describe background noise conditions.

The Day-Night Average Sound Level (L_{dn} or DNL) represents the average sound level for a 24-hour day and is calculated by adding a 10 dBA penalty to sound levels during the night period (10:00 p.m. to 7:00 a.m.). The L_{dn} is the descriptor of choice and used by nearly all federal, State, and local agencies throughout the United States to define acceptable land use compatibility with respect to noise. Within California, the Community Noise Equivalent Level (CNEL) is sometimes used. CNEL is very similar to L_{dn}, except that an additional 5 dBA penalty is applied to the evening hours (7:00 p.m. to 10:00 p.m.). Because of the time-of-day penalties associated with the L_{dn} and CNEL descriptors, the L_{dn} or CNEL dBA

value for a continuously operating sound source during a 24-hour period will be numerically greater than the dBA value of the 24-hour L_{eq}. Thus, for a continuously operating noise source producing a constant noise level operating for periods of 24 hours or more, the L_{dn} will be 6 dBA higher than the 24-hour L_{eq} value. For convenience, a summary of common noise metrics is provided in **Table 4.13-2**, *Common Noise Metrics*. To provide a frame of reference, common sound levels are presented in **Table 4.13-3,** *Common Sound Levels*.

TABLE 4.13-2: 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 period between 10 p.m. and 7 a.m.
L_{eq}	Equivalent Noise Level	The average acoustic energy content of noise for a stated period. The L_{eq} of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. The L_{eq} may also be referred to as the average sound level.
L_{max}	Maximum Noise Level	L_{max} represents the maximum instantaneous noise level experienced during a given period. 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. 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 period.

TABLE 4.13-3: COMMON SOUND LEVELS

Sound Level dB(A)	Common Indoor Sounds	Common Outdoor Sounds
110	Rock Band	Car Horn at 3 feet
100	Inside NYC Subway Train	—
90	Food Blender at 3 feet	Gas Lawn Mower at 3 feet Diesel Truck at 150 feet
80	Garbage Disposal at 3 feet Shouting at 3 feet	Noisy Urban
70	Vacuum Cleaner at 10 feet	Busy Highway at 50 feet
60	Normal Speech at 3 feet	Commercial Area
50	Large Business Office Dishwasher in Next Room	Quiet Urban
40	Small Theatre Large Conference Room (Background)	Quiet Rural
30	Library Bedroom at Night Concert Hall (Background)	—

Corona Discharge

Corona discharge is a phenomenon associated with the electrical ionization of the air that occurs near the surface of the energized conductor and suspension hardware due to very high electric field strength. This is audible power line noise that is generated from electric corona discharge, which is usually experienced as a random crackling or hissing sound.

Sensitive Receptors

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication, and can cause physiological and psychological stress and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others. The Noise Element of the Kern County General Plan (KCGP) considers the following noise sensitive areas: residences, schools, convalescent and acute care hospitals, parks and recreational areas, and churches. These locations are referred to as Noise Sensitive Areas (NSAs).

Fundamentals of Vibration

Vibration is defined as the mechanical motion of the ground, buildings, or other types of structures that is induced by the operation of mechanical devices or equipment. Typically, ground-borne vibration generated by human-caused 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.

As described in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018), ground-borne 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, ground-borne 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 ground-borne vibration are trains, buses on rough roads, and construction activities, such as blasting, pile-driving, and the operation of heavy earth-moving equipment. **Table 4.13-4**, *Typical Levels of Ground-Borne Vibration*, provides common vibration sources as well as human and structural responses to ground-borne vibrations.

TABLE 4.13-4: TYPICAL LEVELS OF GROUND-BORNE VIBRATION

Human/Structural Response	PPV (in/sec)	Velocity Level (VdB)[a]	Typical Sources (50 feet from source)
Threshold, Minor Cosmetic Damage, Fragile Buildings	0.4	100	Blasting from Construction Projects
	0.2	94	Heavy Tracked Construction Equipment
Difficulty with Tasks, Such as Reading a Computer Screen	0.125	90	N/A
	0.074	85	Commuter Rail, Upper Range
Residential Annoyance, Infrequent Events	0.04	80	Rapid Transit, Upper Range
	0.013	75	Commuter Rail, Typical
	0.023	72	Bus or Truck Bump Over
Residential Annoyance, Frequent Events	0.013	70	Rapid Transit, Typical
Approximate Threshold of Human Perception	0.007	65	N/A
	0.005	62	Bus or Truck, Typical
	0.0013	50	Typical Background Vibration Levels

Notes:

[a] RMS Vibration velocity in VdB reference to 10^{-6} inches/second

Key: PPV = peak particle velocity; RMS = root mean square; VdB = vibration decibel

Source: FTA 2018

Several different methods 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 on 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 (vibration decibel [VdB]) is commonly used to measure RMS. The relationship of PPV to RMS velocity is expressed in terms of the "crest factor," which is defined as the ratio of the PPV amplitude to the RMS amplitude. PPV is typically 1.7 to 6 times greater than RMS vibration velocity. The decibel notation acts to compress the range of numbers required to describe vibration.

In contrast to airborne noise, ground-borne vibration is not an everyday occurrence for humans. The background vibration velocity levels within residential areas are usually 50 VdB or lower, which is well below the human perception threshold of approximately 65 VdB. The FTA's threshold of architectural damage for conventional sensitive structures from ground-borne vibration is measured as 0.2 inch per second PPV or 94 VdB (decibel units of 1 micro inch per second). The FTA measure of human annoyance

at residential uses is 72 VdB for "Frequent Events," or fewer than 70 vibration events of the same kind per day (FTA 2018).

4.13.2 Environmental Setting

The project is in an unincorporated area of Kern County, on the northern edge of the Antelope Valley, approximately 8 miles west of the unincorporated area of Rosamond, approximately 15 miles west of State Route (SR)14, and 6 miles north of SR- 138. The project site is mostly undeveloped except for high-voltage transmission infrastructure, communications infrastructure, and unpaved roads. The adjacent parcels are also undeveloped except for electrical and communications infrastructure, including the Whirlwind Substation located directly to the south. Nearby uses include solar and wind energy facilities, other utility infrastructure, agriculture, and sparse rural residences. The project site is relatively flat and featureless terrain with elevations ranging from 2,764 to 2,827 feet above mean sea level.

Noise-sensitive land uses located in the vicinity of the project consist primarily of rural residences. **Table 4.13-5** identifies the sensitive receptors located near the project site.

TABLE 4.13-5: SENSITIVE RECEPTORS IN THE PROJECT SITE VICINITY

Receptor ID	Type	Distance from Project Site	Direction from Project Site
NSA-1	Rural Residential	0.18 miles	Northeast
NSA-2	Rural Residential	0.25 miles	Northeast
NSA-3	Rural Residential	0.23 miles	East

Notes:

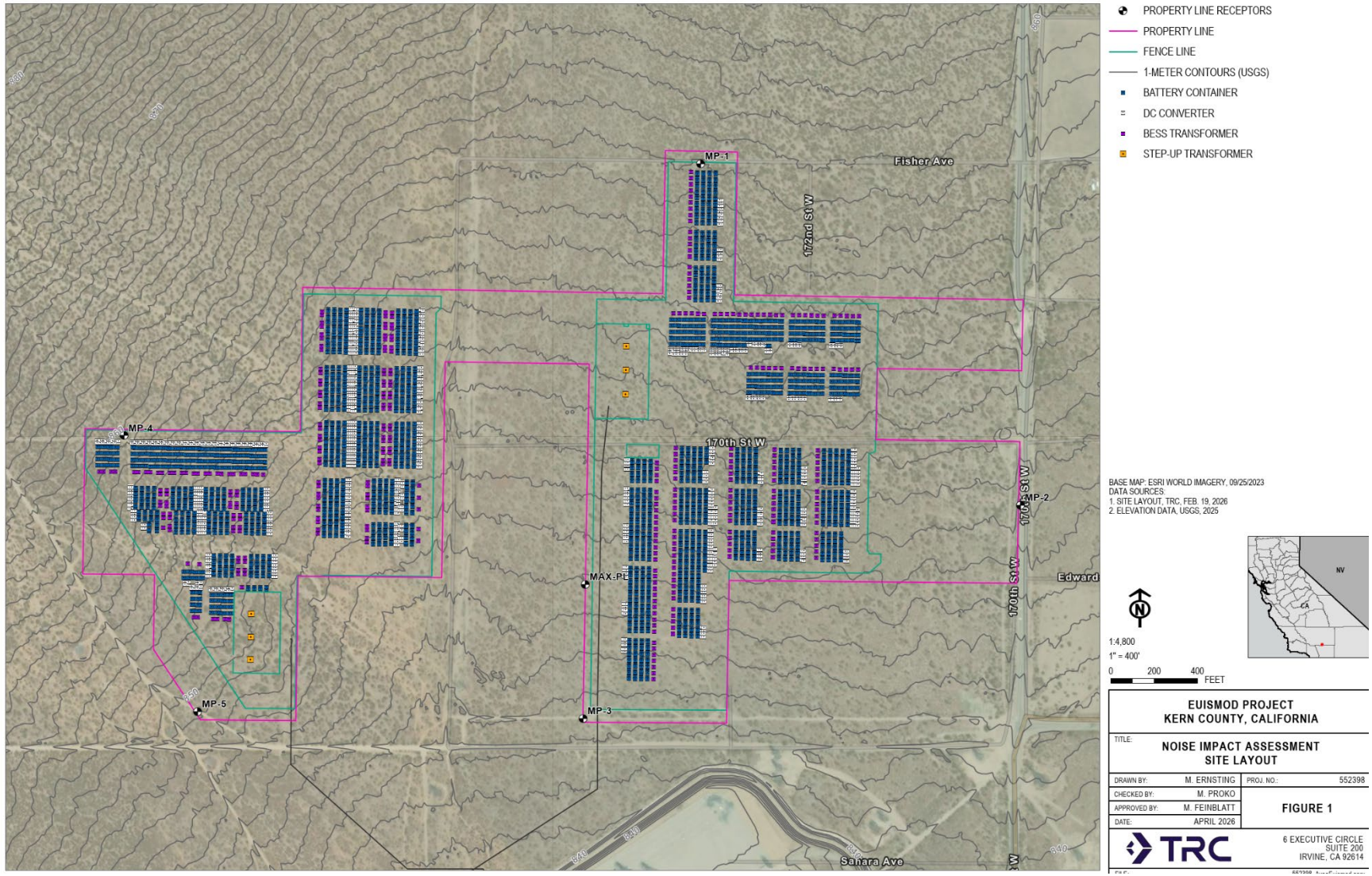
NSA = Nearest Sensitive Receptor

Existing Acoustical Environment

The project site is in a generally remote and sparsely populated area of Kern County with only a few noise generators. Existing noise sources in the project area consist of periodic vehicle traffic on roadways, operation of the Southern California Edison (SCE) Whirlwind Substation directly south of the project site, distant operation of wind turbines, electrical infrastructure associated with existing solar facilities, intermittent aircraft overflights, including jets from Edwards Air Force Base, and natural background noise (such as birds and wind). Daytime ambient noise levels are generally characteristic of rural areas. Little to no vibration sources from human-caused activities, such as transit systems, are present in the project vicinity. Operation of the existing SCE Whirlwind Substation may generate minor ground-borne vibration; however, such vibration attenuates rapidly with distance.

To quantify and characterize the existing ambient noise levels in the project area, five short-term noise measurements were conducted on April 16, 2025. Measurements of existing ambient noise levels were conducted using a Larson Davis Model 831C sound level meter. The meter meets the current American National Standards Institute standard for a Type I instrument and was calibrated before and after each monitoring period using a CAL200 acoustic calibrator. **Figure 4.13-1**, *Noise Measurement Locations*, provides the locations of the five noise measurement locations.

Figure 4.13-1: Noise Measurement Locations



Source: Noise Impact Assessment Report (**Appendix I**)

Table 4.13-6, *Ambient Noise Level Measurements (Existing)*, provides the ambient noise level measurements at the measurement locations. As shown in the table, the noise measurements indicate that daytime ambient noise levels generally ranged from 32.9 to 37.5 dBA, reflecting a typical rural environment. The background levels at potential NSA locations were based on the nearest measurement point, as shown in **Table 4.13-7**, *Predicted Background Noise Level at NSAs*.

TABLE 4.13-6: AMBIENT NOISE LEVEL MEASUREMENTS (EXISTING)

Monitoring Position	L_{eq} (dBA)	L_{eq} (dBC)	L_{10} (dBA)	L_{50} (dBA)	L_{90} (dBA)
MP-1	41.3	69.9	42.7	37.7	35.2
MP-2	42.9	69.5	45.6	41.0	37.3
MP-3	39.1	67.8	42.2	35.8	32.9
MP-4	40.4	70.1	42.7	35.8	33.1
MP-5	51.5	75.6	49.9	43.0	37.5

Notes:

dBA = A-weighted decibel; dBC = C-weighted decibel; L_{eq} = equivalent sound level; L_{10} = noise levels that are equaled or exceeded by a fluctuating sound level 10%, 50%, and 90% of the stated time period; MP = monitoring position

Source: Noise Impact Assessment Report (**Appendix I**)

TABLE 4.13-7: PREDICTED BACKGROUND NOISE LEVEL AT NSAS

Receptor ID	Background Noise Levels (L_{eq}, dBA)
NSA-1	35.2
NSA-2	37.3
NSA-3	37.3

Notes:

dBA = A-weighted decibel; L_{eq} = equivalent sound level

Source: Noise Impact Assessment Report (**Appendix I**)

As previously noted, sensitive receptors may include parks and recreational facilities. The Pacific Crest National Scenic Trail (PCT) is approximately 0.3 miles northwest of the project site. Based on the Willow Springs Specific Plan Noise Element, recreational uses are considered moderately sensitive land uses and are less sensitive to noise than residential land uses.

4.13.3 Regulatory Setting

Federal

Noise Control Act of 1972 (42 U.S.C. 4910)

This act establishes a national policy to promote an environment for all Americans to be free from noise that jeopardizes their health and welfare. To accomplish this, the act establishes a means for the coordination of federal research and activities in noise control, authorizes the establishment of federal noise emissions

standards for products distributed in commerce, and provides information to the public with respect to the noise-emission and noise-reduction characteristics of such products.

U.S. Environmental Protection Agency, Environmental Noise Levels

The U.S. Environmental Protection Agency provided guidance on environmental noise levels in *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, 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.

Occupational Safety and Health Administration Occupational Noise Exposure

The Occupational Safety and Health Administration stipulates that protection against the effects of noise exposure is 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. The Hearing Conservation Program requirements consist of periodic area and personal noise monitoring, performance and evaluation of audiograms, provision of hearing protection, annual employee training, and record keeping.

Federal Transit Administration

The FTA issued the *Transit Noise and Vibration Assessment Manual*, updated in 2018, to guide the assessment of noise and vibration impacts for federally funded transportation projects consistent with the requirements of the National Environmental Policy Act. The project does not meet the criteria to be considered a transit project, as defined by the FTA; however, the construction activities and equipment associated with the project are similar to those addressed in the FTA manual. The guidance and methodologies from the FTA manual pertaining to construction noise and vibration are used in this analysis.

The FTA manual establishes guidelines for assessing construction noise, which may be useful when local criteria are not well defined. The FTA construction noise guidelines established fixed thresholds and guidelines that consider the duration of construction activities when a detailed construction evaluation is warranted. **Table 4.13-8**, *Detailed Analysis of Construction Noise Criteria*, provides a guideline for a detailed assessment of noise impacts during the construction phase of a project based on the combined 30-day average noise level of all equipment. If these thresholds are surpassed, the project, or areas of the project, may result in adverse impacts to the surrounding area.

TABLE 4.13-8: DETAILED ANALYSIS OF CONSTRUCTION NOISE CRITERIA

	Leq.equipment (8 hour) (dBA)		Ldn.equipment (30 day) (dBA)
Land Use	**Day**	**Night**	**30-Day Average**
Residential	80	70	75
Commercial	85	85	80
Industrial	90	90	85

$L_{dn.equipment}$ = cumulative sound exposure for a receiver from equipment over a specified time period; dBA = A-weighted decibel

Source: FTA 2018

State

Government Code Section 65302(f)

While the California Health and Safety Code recognizes excessive noise as a hazard to public health and welfare, there are no overarching state-level regulations specifically governing noise. Instead, local governments establish noise ordinances tailored to community-specific conditions, including limits on acceptable noise levels, quiet hours, and restrictions on certain activities or equipment.

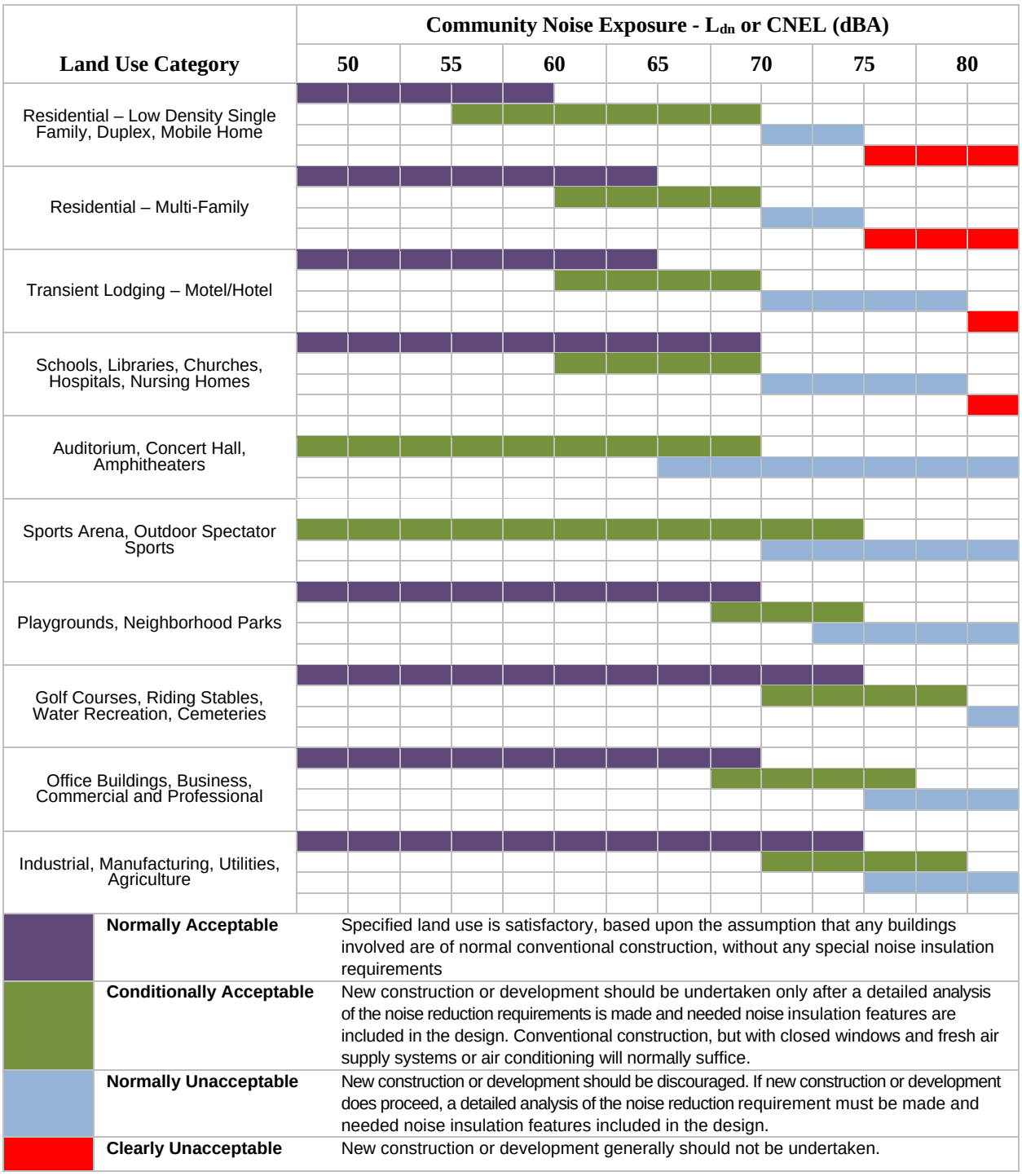
At the state level, the Governor's Office of Land Use and Climate Innovation (LCI; formerly the Governor's Office of Planning and Research) provides guidance through the *General Plan Guidelines*, including Appendix D (Noise Element Guidelines) (OPR 2017). These guidelines identify normally acceptable noise levels by land use. For example, low-density residential land uses are considered normally acceptable at noise levels up to 60 dBA, as shown in **Figure 4.13-2,** *Land Use Compatibility for Community Noise Environment*, below. For land uses such as schools, libraries, churches, hospitals, and parks, acceptable noise levels are up to 70 dBA.

State law requires all municipalities to prepare and adopt a comprehensive general plan, including a Noise Element (California Government Code Section 65302[f]). The noise element must do the following:

- Quantitatively describe the existing noise environment using a cumulative noise metric, such as CNEL or L_{dn};
- Establish noise/land use compatibility criteria or standards
- Identify 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 that serve as enforcement mechanisms for controlling noise.

Figure 4.13-2: Land Use Compatibility for Community Noise Environment



Source: OPR 2017.

California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, declare that excessive noise is a serious hazard to public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also identifies a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the State to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

California Department of Transportation Construction Vibration Guidance Manual

The *Caltrans Transportation and Construction Vibration Guidance Manual* (Caltrans 2020) is a common reference for evaluating construction-related vibration impacts. The manual provides guidance for determining annoyance potential criteria and damage potential threshold criteria. These criteria are provided below in **Table 4.13-9,** *Caltrans Guideline Vibration Annoyance Potential Criteria*, and **Table 4.13-10,** *Caltrans Guideline Vibration Damage Potential Threshold Criteria*, and are presented in terms of PPV in inches per second (ips).

TABLE 4.13-9: CALTRANS GUIDELINE VIBRATION ANNOYANCE POTENTIAL CRITERIA

	Maximus PPV (ips)	
Human Response	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Barely Perceptible	0.04	0.01
Distinctly Perceptible	0.25	0.04
Strongly Perceptible	0.9	0.1
Severe	2.0	0.4

PPV = peak particle velocity; ips = inches per second

Source: Caltrans 2020

TABLE 4.13-10:CALTRANS GUIDELINE VIBRATION DAMAGE POTENTIAL THRESHOLD CRITERIA

	Maximus PPV (ips)	
Structure and Condition	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Extremely fragile, historic buildings, ancient monuments	0.13	0.08
Fragile buildings	0.2	0.10
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.30
New residential structures	1.0	0.50
Modern industrial/commercial buildings	2.0	0.50

PPV = peak particle velocity; ips = inches per second

Source: Caltrans 2020

Local

Construction and operation of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to noise and vibration. The policies, goals, and implementation measures in the KCGP and the Willow Springs Specific Plan related to noise and vibration that are applicable to the project are provided below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for noise and vibration applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

Chapter 3. Noise Element

The Noise Element (Chapter 3 of the KCGP) establishes maximum acceptable noise levels in terms of the L_{dn} metric. Per Policy 5 of the Noise Element, the maximum acceptable noise levels for exterior and interior areas are as follows:

a) 65 dB L_{dn} in outdoor activity areas; and

b) 45 dB L_{dn} within interior living spaces or other noise-sensitive interior spaces.

The following noise-sensitive land uses have been identified in the county:

- Residential areas
- Schools
- Convalescent and acute care hospitals
- Parks and recreational areas
- Churches

3.2 Noise Sensitive Areas

Goals

Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.

Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.

Policies

Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.

Policy 2: Require noise level criteria applied to all categories of land uses to be consistent with the recommendations of the California Division of Occupational Safety and Health (DOSH).

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 5: Prohibit new noise-sensitive land uses in noise-impacted areas unless effective mitigation measures are incorporated into the project design. Such mitigation shall be designed to reduce noise to the following levels:

a) 65 dB L_{dn} or less in outdoor activity areas;

b) 45 dB L_{dn} or less within interior living spaces or other noise sensitive interior spaces.

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

Policies

Policy 10: The County should require acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses in accordance with the Noise Element of the General Plan.

As provided above, the Noise Element of the KCGP establishes goals, policies, and programs to ensure that County residents are protected from excessive noise, and to develop an implementation program which could effectively mitigate potential noise problems. The implementation measures have been designed so that they will not subject residential or other sensitive noise land uses to exterior noise levels in excess of 65 dBA L_{dn}, and interior noise levels in excess of 45 dBA L_{dn}.

In accordance with the Energy Element of the KCGP, Policy 10, the County may also require the preparation of an acoustical analysis for energy project proposals that might impact sensitive and highly sensitive uses.

Willow Springs Specific Plan

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). This plan was adopted in 1992 and contains goals, policies, and implementation measures that are compatible with those in the KCGP but tailored to the particular needs of the Willow Springs area. The recommendations, analysis, and implementation measures in the Willow Springs Specific Plan for noise and vibration applicable to the project are provided below. The plan contains additional recommendations, analysis, 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. Nonetheless, as stated in **Chapter 2**, *Introduction,* all policies, goals, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

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 KCGP Noise Element.

Policy 2: Noise attenuation mitigation will be required of all new development within areas subject to excessive noise levels.

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:

Insensitive 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.

Policy 4: The policies of the Kern County Noise Element are hereby adopted by reference.

Implementation Measures

Measure 1: The following standards are established as the maximum desired ambient noise levels. Noise shall be attenuated so as not exceed these standards.

	L_{50} dB(A) L_{dn}		
	Day	**Night**	**CNEL**
Insensitive Uses	65	60	75
Moderately Sensitive Uses	60	55	70
Sensitive Uses	55	45	65
Highly Sensitive Uses	50	40	60

Measure 2: The implementation measures of the Kern County Noise Element are hereby adopted by reference.

Measure 3: The Kern County Environmental Health Services Department, upon obtaining a referral from the Board of Supervisors or a lead agency, instigate noise monitoring studies, deemed warranted, and recommend necessary adjustments to noise contour data.

Measure 9: In conjunction with building permit applications, individual project applicants shall prepare and submit detailed acoustical reports as determined appropriate by the County on a project-by-project basis.

With respect to Measure 1 above, the Willow Springs Specific Plan acknowledges that construction noise will occur as part of the build-out of the specific plan and that such construction noise represents a short-term impact on ambient noise. Thus, the noise level standards included as part of Measure 1 serve to regulate operational noise, not temporary construction noise.

Kern County Code of Ordinances

The Kern County Code of Ordinances, Chapter 8.36 (Noise Control), includes acceptable hours of construction and limitations on construction-related noise impacts on adjacent sensitive receptors. Noise-producing construction activities that are audible to a person with average hearing ability at a distance of 150 feet from the construction site, if the construction site is within 1,000 feet of an occupied residential dwelling, are prohibited between the hours of 9:00 p.m. and 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 development services agency director or his designated representative may for good cause exempt some construction work for a limited time.
2. Emergency work is exempt from this section.

4.13.4 Impacts and Mitigation Measures

Methodology

Noise impacts associated with the project described in this section are based primarily on analysis conducted for the *Noise Impact Assessment Report* (**Appendix I**). The noise assessment evaluates potential noise and ground-borne vibration impacts associated with the project during both construction and operation. It is based on existing ambient noise levels, anticipated construction equipment and phasing, and stationary and mobile sources during operation of the project.

While the Willow Springs Specific Plan provides separate L_{dn} values for day and night, the noise assessment prepared for the project assumes these values are intended to be separate daytime (L_d) and nighttime (L_n) values. Since all equipment is modeled as operating continuously, the modeled L_{50} values would be the same as the L_{eq}.

The evaluation of potential project impacts is based on significance criteria established by Appendix G of the CEQA Guidelines, which the Lead Agency has determined to be appropriate criteria for this Draft EIR.

Construction Noise

Construction noise modeling included a Microsoft Excel-based noise prediction model emulating and using reference data from the Federal Highway Administration Roadway Construction Noise Model (FHWA 2008) version 1.1. Although the noise model was funded and promulgated by the FHWA, it is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are often used for other types of construction. This method determines the combined average noise produced by various pieces of equipment used during each of the project's 10 construction phases. For a conservative estimate, the noise model assumes that all equipment scheduled for a given phase is operating simultaneously at the same location.

Two sources of noise could occur during project construction. The first is from the transportation of construction workers, equipment, and materials that would increase noise levels on surrounding roads.

Consistent with the Transportation Impact Study (**Appendix K1**) prepared for the project, the noise assessment assumed 12 material delivery truck trips and no worker trips during the peak AM construction hour (assuming all workers would arrive before the peak traffic hours of 7 to 9 a.m.). The peak PM construction hour (5 to 6 p.m.) assumes approximately 220 worker trips.

The second source of noise is from construction activities occurring at the project site, including site preparation for the installation of the foundation (concrete or pile) for the battery energy storage system (BESS) and associated infrastructure, the installation of BESS arrays, the installation of batteries and medium-voltage transformers, construction of operations and maintenance buildings, the paving and landscaping, and SCE site vegetation clearing and SCE transmission line installation. Specifically, the project site would be prepared through clearing, grubbing, and grading. Extensive grading would not be required due to the existing grading levels at the project site being close to the desired finish grades needed for construction and control of stormwater drainage. Grading would be completed using common construction equipment, such as water trucks, bulldozers, loaders, haul trucks, and graders. Rough grading would include conditioning foundation areas as needed to achieve proper and consistent compaction in the subgrade and over the rough graded surface and achieving a cut/fill balance.

After site preparation, the foundations for the BESS and associated infrastructure would be installed, and piles would be vibrated or screwed into place. Concrete foundation installation would consist of excavation as needed, installing forms, installing reinforcing steel, structural inspection, and then concrete pouring and finishing. Trenchers or backhoes would be used to excavate and backfill ditches for the installation of conduit and underground cabling to connect the equipment.

The preliminary construction sequencing expects two phases of construction: the first beginning with the North and South BESS areas, and the second involving the West BESS area. SCE's activities associated with the tie-lines and interconnections would be concurrent with on-site construction. Construction of the eastern tie-line would be scheduled so that the interconnection is available when the South BESS and North BESS area facilities are ready for testing. Similarly, construction of the western tie-line would be scheduled so that the interconnection is available when the West BESS area facilities are ready for testing. Project construction is expected to last up to 24 months, with both phases taking up to 12 months.

To be conservative, all project construction equipment was included in the noise model as operating at the same time and at the same location. The highest noise levels during construction are expected during activities involving drilling rig equipment, which has the highest assumed sound level of all the equipment being considered for use. **Table 4.13-11** below lists the expected construction equipment used for the project and their highest noise levels based on a distance of 50 feet. The activities listed in the table would occur in each of the two years of construction.

TABLE 4.13-11: CONSTRUCTION PHASES AND EQUIPMENT NOISE LEVELS (L_{MAX} AT 50 FT)

Construction Phase	Schedule	Equipment	Noise Level (dBA)
SCE IT/Telecom	Month 1	Plate Compactor	82
		Skid Steer Loader	80
		Bucket Truck	84
		Small Cable Puller	85
		Trencher	82
Onsite Clearing/Grading	Month 1-6	Crawler Tractor	80
		Chipper	85
		Grader	85
		Water Truck	84
		Rollers	85
		Tractor/Loader/Backhoe	85
SCE Clear Vegetation, Installs Tie-line Supports and Underground Telecommunications	Month 2-3	Bore/Drill Rig	95
		Crane	83
		Crawler Tractor	80
		Chipper	85
		Generator Set	82
		Water Truck	84
		Plate Compactor	82
On-site Trench/Backfill	Month 3-6	Water Truck	84
		Plate Compactor	82
		Skid Steer Loader	80
		Tractor/Loader/Backhoe	80
On-site Equipment Foundations and Transmission Poles	Month 3-9	Bore/Drill Rig	95
		Crane	83
		Forklift	85
		Generator Set	82
		Water Truck	84
		Concrete Pump	82
		Skid Steer Loader	80
		Tractor/Loader/Backhoe	80
		Bucket Truck	84
		Small Cable Puller	85
		Large Cable Puller	85
SCE Transmission Line overhead	Month 4	Generator Set	82
		Bucket Truck	84
		Small Cable Puller	85
		Large Cable Puller	85

Construction Phase	Schedule	Equipment	Noise Level (dBA)
SCE Whirlwind Substation Civil and Electrical	Month 5-6	Aerial Lift	85
		Crane	83
		Forklift	85
		Plate Compactor	82
		Skid Steer Loader	80
		Bucket Truck	84
On-Site Substation Construction	Month 6-11	Aerial Lift	85
		Crane	83
		Forklift	85
		Generator Set	82
On-Site Equipment Installation	Month 4-11	Crane	83
		Forklift	85
		Generator Set	82
		Water Truck	84
		Skid Steer Loader	80
		Tractor/Loader/Backhoe	80
On-Site Pave/Gravel/Landscape	Month 5-12	Grader	85
		Paving Equipment	85
		Rollers	85
		Skid Steer Loader	80
		Tractor/Loader/Backhoe	80

Source: Noise Impact Assessment Report (**Appendix I)**

Operational Noise

Standard acoustic modeling methods were used in the noise analysis. The acoustical model, Cadna-A, was used to predict future sound pressure levels from the operation of the project at the property line.

The Cadna-A model accounts for sound power levels from stationary and mobile sources, the effects of terrain features including relative elevations of noise sources, intervening objects including buildings and sound barrier walls, and ground effects due to areas of pavement and unpaved ground. However, shielding effects from intervening off-site buildings and ground vegetation, which tend to reduce noise levels, were excluded in the model to conservatively predict associated noise levels during operations.

Inputs to the noise model include the equipment listed in **Table 4.13-12**, *Euismod BESS Equipment Noise Levels*, and include both weighted and unweighted decibel levels. Since the sound-producing equipment was assumed to be continuously operating, the L_{90} (background level) and L_{eq} (equivalent constant level) of the proposed equipment are the same for the purposes of this assessment. The primary noise-producing sources on the site during project operation would be the BESS containers, medium-voltage BESS transformers, DC converters, and substation step-up transformers.

TABLE 4.13-12: EUISMOD BESS EQUIPMENT SOUND POWER LEVELS

Equipment	Overall dB	Overall dBA	Total Number of Items
Battery Containers	86.0	81.5	2,898
BESS Transformers	99.6	98.0	361
DC Converter	95.4	86.2	1,172
Step-Up Transformers	98.0	89.4	6

Source: Noise Impact Assessment Report (**Appendix I**)

The sound pressure level for the proposed BESS containers, based on SolBank 3.0 battery containers, which produce less than 75 dBA at one meter according to manufacturer specifications, resulting in a sound power level of 81.5 dBA. The sound level for the transformer units, the Power Electronics Multi PCSM, is not listed in the manufacturer's specifications, so the modeled sound levels were based on a 3060 kVA transformer with a sound power level of 98.0 dBA. The sound level for the DC converters, the Power Electronics DC/DC, was also not listed in the manufacturer's specifications, so the modeled sound levels were based on a comparable DC converter with a sound power level of 86.2 dBA. Step-up transformers were modeled based on the National Electrical Manufacturers Association standard sound pressure level of 87 dB at 3.28 feet, with an equivalent sound power level of 98 dBA.

Vibration

The majority of proposed equipment generates little to no ground vibration. Potential sources of vibration may include drill rigs, loaded trucks, and vibratory rollers. The maximum source vibration level of the proposed equipment is 94 VdB (RMS velocity in decibels, VdB re 1 micro-in/sec) at 25 feet, which results in a vibration level of 47.2 VdB at the nearest NSA. This level is below typical background vibration (50 VdB) and well below the generally accepted thresholds for human perceptibility and strong annoyance of 65 VdB and 85 VdB, respectively (FTA 2018).

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 noise-related adverse effect.

A project could have a significant noise and vibration-related adverse effect if it would result in the following:

a. Generation of a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies

b. Generation of excessive ground-borne vibration or ground-borne noise levels

c. For a project within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels

Substantial Temporary or Permanent Ambient Noise Increase in Excess of Standards

Chapter 8.36 (Noise Control) of the Kern County Code of Ordinances establishes construction-hour restrictions and limitations on construction-related noise impacts to 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, where the construction site is located within 1,000 feet of an occupied residential dwelling, are prohibited between the hours of 9:00 p.m. and 6:00 a.m. on weekdays and 9:00 p.m. and 8:00 a.m. on weekends. Although the Kern County Code of Ordinances establishes construction-hour restrictions, neither the KCGP nor the Willow Springs Specific Plan establishes quantitative daytime construction noise standards. Therefore, temporary construction noise levels are evaluated using FTA guidance. The FTA recommends a daytime construction noise threshold of 80 dBA L_{eq} (8-hour) at the exterior of residential land uses (FTA 2018).

For operational noise, the KCGP Noise Element requires that proposed commercial and industrial uses or operations be designed or arranged so that they will not subject residential or other noise-sensitive land uses to exterior noise levels in excess of 65 dB L_{dn} and interior noise levels in excess of 45 dB L_{dn}. Additionally, the Willow Springs Specific Plan further identifies both daytime and nighttime noise standards for land uses in its plan area. For sensitive land uses, including residential uses, the Willow Springs Specific Plan identifies operational noise limitations of 55 dBA L_{50} during the daytime hours and 45 dBA L_{50} during the nighttime hours. The Willow Springs Specific Plan also identifies an average daily (24-hour) noise level limit of 65 dBA L_{dn}/CNEL for residential uses, which is consistent with the KCGP Noise Element. For moderately sensitive land uses, including recreational uses, the Willow Springs Specific Plan identifies operational noise limitations of 60 dBA L_{50} during daytime hours and 55 dBA L_{50} during nighttime hours. The Willow Springs Specific Plan also identifies an average daily (24-hour) noise level limit of 70 dBA L_{dn}/CNEL for moderately sensitive uses. Therefore, in assessing the potential noise impacts resulting from the project's use of stationary operational equipment, the nearby noise-sensitive land uses are evaluated based on the daytime and nighttime noise level limitations established by the Willow Springs Specific Plan and the KCGP Noise Element.

Project Impacts

Impact 4.13-1: The project would result in the generation of a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies.

Construction and Decommissioning

Construction activities associated with the project are expected to last approximately 24 months, with two phases each occurring for approximately 12 months. During this time, temporary increases in noise levels would occur due to the operation of various construction equipment within the project site, including where tie-lines would be installed. Noise levels associated with the construction of the project would fluctuate depending on the type of construction activity and the location of construction equipment within the site.

Table 4.13-13, *Predicted Construction Noise Levels per Construction Stage at Nearest Receptor,* shows the worst-case one-hour predicted noise levels during each construction stage. The model conservatively assumes that all equipment noise would be operating at their maximum level simultaneously on the nearest

property line location to the nearest sensitive receptor, approximately 0.18 miles (950 feet) from the project site.

TABLE 4.13-13: PREDICTED CONSTRUCTION NOISE LEVELS PER CONSTRUCTION STAGE AT NEAREST RECEPTOR

Construction Stage	Sound Level (L_{eq} dBA)
SCE IT/Telecom	59.7
On-Site Clearing and Grading	60.9
SCE Clear Vegetation and Install Transmission Line Supports and Underground	60.5
On-Site Trenching and Backfill	60.5
On-Site Equipment Foundations and Transmission Poles	63.4
SCE Transmission Line Overhead	60.8
SCE Whirlwind SS Civil and Electrical	59.2
On-Site SS Construction	58.6
On-Site Equipment Installation	59.7
On-Site Paving, Gravel, and Landscape	58.4

Source: Noise Impact Assessment Report (**Appendix I**)

As shown in **Table 4.13-13**, *Predicted Construction Noise Levels per Construction Stage at Nearest Receptor*, the proposed construction activities' noise levels would range between 58.4 dBA and 63.4 dBA at the nearest sensitive receptor (NSA-1). When comparing the existing ambient noise level at NSA-1 (35.2 dBA) to the maximum predicted construction noise level (63.4 dBA), project construction activities would result in temporary increases above ambient noise levels. However, because these predicted noise levels are associated with the maximum noise-generating construction activity that could occur nearest to the analyzed sensitive receptor location, these noise levels would only occur over the duration of that activity and not over the entirety of the project's construction period. During quieter phases of construction, or when construction activity moves farther away from the receptor, the noise levels would decrease. Therefore, the highest construction noise levels would only occur during specific construction activities and for limited durations within the project's overall construction schedule.

As previously noted, neither the KCGP nor the Willow Springs Specific Plan establishes daytime construction-related noise standards. Therefore, this analysis relies on the FTA-recommended daytime construction noise threshold of 80 dBA L_{eq} (8-hour) at the exterior of residential land uses. As shown in **Table 4.13-13**, *Predicted Construction Noise Levels per Construction Stage at Nearest Receptor*, the maximum construction noise level at NSA-1 would be 63.4 dBA, which is below the FTA-recommended threshold. Although the PCT is considered a moderately sensitive land use under the Willow Springs Specific Plan, it is located farther from the project site than NSA-1, and therefore, would be expected to experience lower construction noise levels. Accordingly, construction noise levels at the PCT would also be expected to remain below the FTA-recommended threshold. Furthermore, the Kern County Noise Control Ordinance restricts construction activities during nighttime hours, except for emergency work or work specifically authorized by the County. The project is not expected to require nighttime construction activities, and would occur only in limited circumstances as authorized by the County. Compliance with

the Kern County Noise Control Ordinance construction-hour restrictions would minimize temporary construction noise exposure at nearby residences and ensure impacts would be less than significant.

Although construction noise impacts would be less than significant, **Mitigation Measures** (**MM) 4.13-1** through **MM 4.13-3** incorporate the County's code-required construction-hour limitations and include advanced construction notification to nearby receptors and additional noise reduction measures to ensure continued compliance with the Kern County Noise Control Ordinance and further minimize temporary noise increases at off-site receptors. Accordingly, construction noise impacts would remain less than significant.

If it is determined that the project site should be decommissioned at the end of the project's operational life, equipment operation and site restoration activities would result in a temporary increase in ambient noise levels in the project area. The construction equipment necessary to construct the project would also be required to decommission the project site, and it is reasonable to assume that decommissioning activities would be similar in nature to the project's construction activities. Similar to the construction noise analysis described above, project decommissioning would result in noise levels that would not exceed applicable standards. Nevertheless, **MM 4.13-1** through **MM 4.13-3** would be implemented to ensure compliance with applicable noise limitations and further reduce temporary increases in noise levels at off-site receptors. Accordingly, decommissioning noise impacts would be less than significant.

Construction Traffic

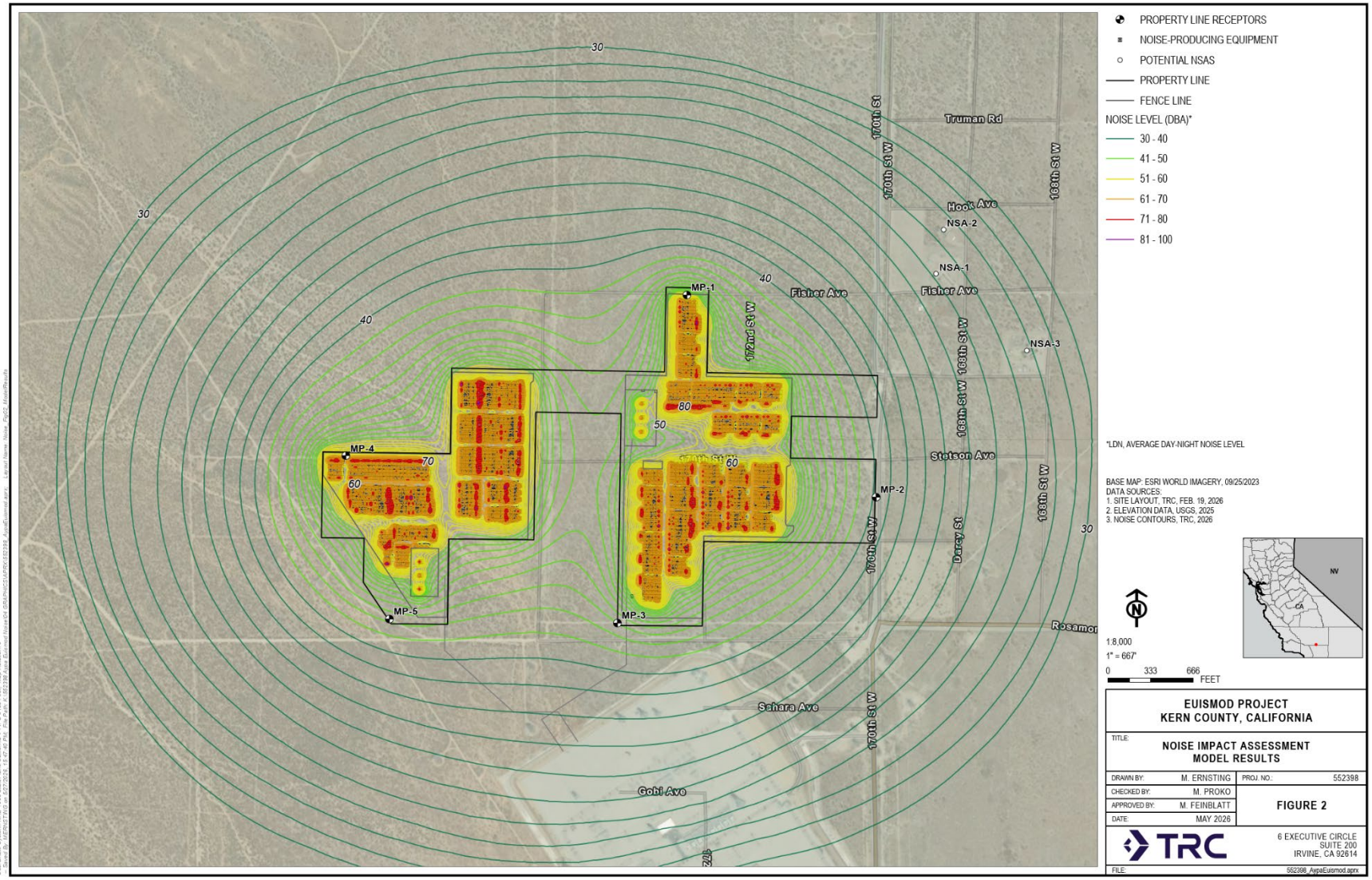
Construction worker vehicles and haul trucks, which would transport equipment and materials to and from the project site, would incrementally increase noise levels on local roads in the project area. According to the traffic analysis for the project, the peak AM construction hour would consist of 12 material delivery truck trips and no worker trips, because all workers would arrive on-site before peak traffic hours. The resulting peak AM noise level would be 48.9 dBA one-hour L_{eq}, 50 feet from the roadway of 170th Street West. The peak PM construction hour would consist of approximately 220 worker trips, resulting in a one-hour L_{eq} of 60.1 dBA, 50 feet from the roadway of 170th Street. The nearest sensitive receptor to 170th Street is approximately 0.18 miles away. At this distance, the sound level would attenuate to 35 dBA. As the existing ambient noise level at NSA-1 is 35.2 dBA, the noise impacts associated with construction-generated vehicle noise would be less than significant.

Operation

As discussed in **Section 4.13.4**, *Methodology*, the combined on-site operational noise sources (BESS containers, BESS transformers, DC converters, and substation step-up transformers) were analyzed using CadnaA noise modeling software. The model results were output as a noise contour map showing noise levels graphically across the study area (see **Figure 4.13-3,** *Noise Impact Assessment Model Results*). Model results are tabulated in **Table 4.13-14**, *Modeled Sound Pressure Level Results for Nearest Sensitive Receptors*, in terms of both the hourly L_{eq} and 24-hour L_{dn}, presuming all the project equipment operated continuously at full load over 24-hours.

As indicated in **Table 4.13-14**, *Modeled Noise Levels at NSAs and Measurement Points*, the combined operational stationary equipment noise levels at all analyzed sensitive receptors would range from 38.9 to 40.5 dBA L_{dn}, which is below the applicable Kern County and Willow Springs Specific Plan standard of 65 dBA L_{dn}.

Figure 4.13-3: Noise Impact Assessment Model Results



Source: Noise Impact Assessment Report (**Appendix I**)

TABLE 4.13-14: MODELED NOISE LEVELS FOR NEAREST SENSITIVE RECEPTORS

Receptor ID	Predicted Noise Level (L_{eq}, dBA)	Predicted Noise Level (24-hour L_{dn}, dBA)
NSA-1	32.6	39.2
NSA-2	33.9	40.5
NSA-3	32.3	38.9

Source: Noise Impact Assessment Report (**Appendix I**)

Modeled hourly noise levels would range from 32.3 to 33.9 dBA L_{eq} at all analyzed noise-sensitive receptors. Because all equipment is modeled as operating continuously, the modeled L_{50} values would be equivalent to L_{eq}. Accordingly, these noise levels comply with the applicable Willow Springs Specific Plan daytime and nighttime standards of 55 and 45 dBA L_{50}, respectively.

The PCT, which is considered a moderately sensitive land use and is located farther from the project site than the nearest sensitive receptor, would be exposed to lower noise levels than those modeled at NSAs. Therefore, noise levels at the PCT would comply with the applicable Willow Springs Specific Plan daytime and nighttime standards for moderately sensitive land uses of 60 dBA (daytime) and 55 dBA (nighttime) L_{50}.

The area along the northwest boundary of the project is zoned as E (5) RS and E (10) RS, which allow 5-acre and 10-acre estate residential uses, respectively. Because these adjacent parcels are zoned for sensitive uses and could be developed with noise-sensitive land uses in the future, noise levels were evaluated at measurement points immediately adjacent to the project site, as presented in **Table 4.13-15**, *Modeled Noise Levels at Measurement Points*. As shown in this table, combined operational stationary equipment noise levels at the analyzed measurement points would range from 46.5 to 64.6 dBA L_{dn}, which is below the KCGP standard of 65 dBA L_{dn} for residential and other sensitive uses.

TABLE 4.13-15: MODELED NOISE LEVELS AT MEASUREMENT POINTS

Receptor ID	Predicted Sound Level, L_{eq} (dBA)	Predicted Sound Level, L_{dn} (dBA)
MP-1	53.6	60.2
MP-2	39.9	46.5
MP-3	42.9	49.5
MP-4	58.9[1]	65.6[1]
MP-5	42.2	48.8

Notes:

[1] Since MP-4 is inside the property line, levels at the property line would be 1 dBA lower than those shown.

Source: Noise Impact Assessment Report (**Appendix I**)

However, compliance with the KCGP L_{dn} standard does not indicate compliance with the more restrictive noise standards established by the Willow Springs Specific Plan. Hourly operational noise levels at the analyzed measurement points would range from 42.2 to 57.9 dBA L_{eq}. These noise levels would exceed the applicable Willow Springs Specific Plan daytime and nighttime standards of 55 and 45 dBA L_{50}, respectively. Specifically, daytime noise levels would exceed the applicable standard by up to 2.9 dBA, and nighttime noise levels would exceed the applicable standard by up to 7.9 dBA. Because the nighttime noise

levels exceed 5 dBA, the exceedance would be noticeable, and operation of the project would result in a significant impact on adjacent lands zoned for sensitive uses. Implementation of **MM 4.13-4** would require operational noise control measures to ensure compliance with applicable Willow Springs Specific Plan noise standards, thereby reducing impacts on noise-sensitive receptors to less than significant.

SCE Whirlwind Substation Upgrades

Noise levels associated with the construction of the SCE Whirlwind Substation upgrades were evaluated as part of the overall project and are provided in the discussion above. Construction noise impacts would be below applicable standards; therefore, construction-related noise impacts would be less than significant.

With respect to operational noise, data from a previous noise study associated with a solar project with overhead electrical lines (Ambient Air Quality & Noise Consulting 2015) indicate that transmission line corona discharge from a 230-kilovolt line generates approximately 25 dBA at a distance of 25 feet. This noise level is below all applicable Kern County and Willow Springs Specific Plan noise standards and would not result in substantial increases in ambient noise levels beyond the immediate vicinity of the transmission line. Further, there would be no increase above the existing noise levels at the substation as a result of the SCE upgrades. Therefore, operational noise impacts would be less than significant.

Mitigation Measures

Implementation of **Mitigation Measures MM 4.13-1** through **MM 4.13-4** would be required.

MM 4.13-1: The following measures are to be implemented to further reduce short-term noise levels associated with project construction and decommissioning:

a. Construction and decommissioning activities at the project site shall comply with the hourly restrictions for noise-generating construction activities, as specified in the Kern County Noise Ordinance, Chapter 8.36. Construction activities shall be prohibited between the hours of 9:00 p.m. and 6:00 a.m. on weekdays, and between 9:00 p.m. and 8:00 a.m. on weekends, if they result in noise that is audible to a person with average hearing faculties or capacity at a distance of 150 feet from the construction site, if the construction site is within 1,000 feet of an occupied residential dwelling. 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, unanticipated emergencies requiring immediate attention, or security patrols.

b. Stage equipment in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during construction to the extent practical. Place stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, where feasible.

c. Ensure construction equipment is fitted with noise-reduction features such as mufflers and engine shrouds that are no less effective than those originally installed by the manufacturer.

d. Limit haul trucks from idling for periods greater than 5 minutes, except as needed to perform a specified function (e.g., concrete mixing).

e. Limit on-site vehicle speeds to 15 miles per hour, or less (except in cases of emergency).

f. Adjust back-up beepers for construction equipment 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, employ alternative safety measures such as escorts and spotters.

MM 4.13-2: Prior to the issuance of grading permits, the construction contractor shall establish a Noise Disturbance Coordinator for the project during construction. The Noise Disturbance Coordinator is responsible for responding to any complaints about construction noise. The Noise Disturbance Coordinator shall be responsible for determining the cause of the complaint and shall be required to implement reasonable measures to resolve the complaint. Contact information for the Noise Disturbance Coordinator shall be submitted to the Kern County Planning and Natural Resources Department prior to commencement of any ground disturbing activities.

MM 4.13-3: Prior to commencement of any on-site construction and decommissioning activities (i.e., fence construction, mobilization of construction equipment, initial grading, etc.), the project proponent/operator shall provide written notice to the public through mailing a notice, which shall include:

a. The mailing notice shall be to all residences within 1,000 feet of the project site, 15 days or less prior to construction activities. The notices shall include the construction schedule and a telephone number and email address where complaints and questions can be registered with the noise disturbance coordinator.

b. A minimum of one sign, legible at a distance of 50 feet, shall be posted at the construction site, or adjacent to the nearest public access to the main construction entrance, throughout construction activities that shall provide the construction schedule (updated as needed) and a telephone number where noise complaints can be registered with the noise disturbance coordinator.

c. Documentation that the public notice has been sent and the sign has been posted shall be provided to the Kern County Planning and Natural Resources Department.

MM 4.13-4: Prior to the issuance of building permits, the project proponent shall demonstrate, through an acoustical study prepared by a qualified acoustical professional and approved by the County, that operational noise generated by the project would not exceed applicable noise standards established by the Willow Springs Specific Plan at adjacent or nearby residentially zoned (E, R-1, R-2, R-3, or MP) properties, excluding any such properties owned by a utility or by the project proponent, or its affiliates.

To achieve compliance, the final project design may incorporate one or more of the following noise attenuation measures, or equivalent measures that effectively reduce noise:

a. Install acoustical treatments, such as permanent sound walls of sufficient height and design, silencers, shielding, or other attenuation features to reduce noise generated by BESS containers and associated equipment.

b. Incorporate sufficient setback distances between the BESS containers and the nearest off-site residentially zoned property.

c. Select and install low-noise equipment, including but not limited to cooling systems, inverters, transformers, and backup generators.

d. 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.

Any modifications to final site design necessary to accommodate noise attenuation measures and achieve compliance with applicable noise standards shall be considered in substantial conformance with the approved project.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.13-2: The project would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.

Construction and Decommissioning

Ground-borne vibration resulting from project construction would be temporary, localized, and limited to certain activities. The majority of proposed equipment generates little to no ground vibration. Potential sources of vibration may include drill rigs, loaded trucks, and vibratory rollers. Based on vibration propagation calculations, the maximum source vibration level of the proposed equipment is 94 VdB (RMS velocity in decibels, VdB re 1 micro-in/sec) at 25 feet, which results in a vibration level of 47.2 VdB at the nearest NSA. This level is below typical background vibration in residential areas (50 VdB) and generally accepted thresholds for human perceptibility and strong annoyance of 65 VdB and 85 VdB (FTA 2018), respectively.

Overall, ground-borne vibration levels would be low and imperceptible at the nearest sensitive receptor. Therefore, project construction would not expose the analyzed sensitive receptors to or generate excessive ground-borne vibration levels, and impacts would be less than significant.

Operation

Once the project is operational, no substantial sources of ground-borne vibration would occur on-site. The BESS arrays and associated equipment installed on-site would cause some localized vibration that may be perceptible at close range (for example, on the equipment pad), but there would be no perceptible vibration at other properties. Therefore, vibration impacts associated with project operation would be less than significant.

SCE Whirlwind Substation Upgrades

Ground-borne vibration associated with the construction of the SCE Whirlwind Substation upgrades were evaluated as part of the overall project; therefore, potential impacts are addressed in the discussion above. As discussed, ground-borne vibration levels would be low and imperceptible at the nearest sensitive receptor. Therefore, SCE construction activities would not expose the analyzed sensitive receptors to or generate excessive ground-borne vibration levels. Furthermore, the Whirlwind Substation upgrades and tie-

lines would not include any new sources of substantial ground-borne vibration associated with operational noise, and thus impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.13-1** would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.13-3: For a project within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people be residing or working in the project area to excessive noise levels?

The project site is not located within 2 miles of a public airport or private airstrip. As discussed in **Section 4.9**, *Hazards and Hazardous Materials*, the nearest public airport to the project site is a private landing strip more than 12 miles east. The project site is not located within any safety or noise contour zone for either airport, nor is it located within a designated Kern County Airport Land Use Plan. Therefore, no impact would occur.

SCE Whirlwind Substation Upgrades

The nearest airport to the SCE Whirlwind Substation site is a private landing strip, approximately 12 miles east. The substation site is not located within any safety or noise contour zones or any other airport nor is it within a designated airport land use plan area. For these reasons, no impact would occur.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

No impact.

4.13.5 Cumulative Setting, Impacts, and Mitigation Measures

As provided in **Table 3-4**, *Cumulative Projects List*, in **Chapter 3**, *Project Description*, there are five cumulative projects included in the cumulative impact study area. The geographic scope of impacts associated with noise and vibration generally encompasses the project site and a 2-mile radius. This scope is appropriate because noise and vibration are localized effects that decrease with distance from the source. Based on a review of the list of cumulative projects, two are located within the geographic scope of this analysis.

Cumulative noise or vibration impacts can occur when two or more projects are under construction simultaneously or generate operational noise or vibration at the same time. The presence of any natural or human-made barriers (hills, topography, walls, buildings) between a project site and a receiver will decrease noise levels, further reducing cumulative noise levels. Therefore, noise levels at any single receiver are

typically dominated by the closest construction activity, and the chances of noise from more-distant project sites would not be expected to make a substantial contribution to overall noise levels at the same receiver.

Projects in the vicinity of the noise- and vibration-sensitive receivers considered in this analysis would include construction and maintenance activities that could occur simultaneously with construction and/or maintenance of the project, depending on project timing.

Construction Noise

Similar to noise generated by the project, construction activities associated with cumulative projects would contribute noise emission levels that combine logarithmically at nearby noise-sensitive receptors. The magnitude of cumulative noise exposure would depend on the intensity, location, timing, and distance of the concurrent construction activities. Two cumulative projects are identified within the immediate vicinity of the project site: the Keyhole Wind Energy Project and the Willow Rock Energy Storage Center (WRESC). However, readily available information regarding the construction schedule for the Keyhole Wind Energy Project is not available.

The WRESC site is located approximately eight miles from the project site; however, its associated generation transmission (gen-tie) line would connect to the SCE Whirlwind Substation immediately adjacent to portions of the project site. The gen-tie line extends approximately 19 miles from the WRESC site to the Whirlwind Substation along local roads, including Rosamond Boulevard. According to the California Energy Commission's Final Decision, constructing the WRESC gen-tie line and associated access road is expected to occur over a 16-month duration, from November 2027 through February 2029. The Final Decision further indicates that construction activities at each pole location would generally require one or two days of construction (CEC 2025). Based on the overall construction schedule and the incremental nature of transmission line installation, it is assumed that construction activities nearest the Whirlwind Substation would occur in January and February 2029. Therefore, construction of the WRESC gen-tie line in the vicinity of the project site is not expected to overlap with construction of the proposed project.

Furthermore, even if a limited overlap were to occur, construction noise associated with the WRESC gen-tie line would be temporary, localized, and intermittent. All cumulative projects would be subject to applicable federal, State, and local noise regulations and would be expected to implement project-specific noise reduction measures. Given that the project's construction noise levels would not exceed applicable thresholds and that overlapping construction activities are not anticipated, the project's contribution to cumulative construction-related noise impacts would not be cumulatively considerable. Cumulative construction noise impacts would be less than significant.

Operational Noise

The cumulative scenario for the analysis of operational noise impacts considers potential impacts from present or reasonably foreseeable projects, including the Keyhole Wind Energy Project. The noise study included in the *Addendum No. 4 Certified Final Environmental Impact Report (SCH# 2009091127) for the Pacific Wind Energy Project* (Kern County 2023) does not include modeling of operational noise levels but concludes the noise levels from the Keyhole Wind Energy Project would be lower than those indicated by the previous study conducted for the Pacific Wind Project. The *Final Environmental Impact Report SCH# 2009091127 for the Pacific Wind Energy Project* (Kern County 2010) noise report predicted noise levels (L_{eq}) for NSA-1, 2, and 3 to be 46.5 to 47.4 dBA. Because the Keyhole Wind Energy Project would have

lower noise levels than the original Pacific Wind Project, use of the noise values from the 2010 EIR is conservative for estimating cumulative noise impacts, potentially overestimating the impact.

The Willow Rock Energy Storage Center (WRESC) was also identified as a cumulative project because a portion of its associated transmission infrastructure is located within the cumulative impact study area. However, the compressed air energy storage facility itself is located more than eight miles from the project site and is outside the cumulative impact study area. According to the noise section in the WRESC Application for Certification, corona discharge is a principal concern associated with transmission lines operating at 345 kV and above and with lines located at higher elevations. As such, operational noise associated with the WRESC 230-kV transmission line would be limited to occasional corona discharge during foul weather conditions. The analysis concluded that these noise impacts would be temporary, infrequent, and less than significant (CEC 2021).

As shown in **Table 4.13-16**, *Cumulative Impact Noise Levels (dBA L_{eq}),* operational noise levels associated with the project alone would range from 32.3 to 33.9 dBA L_{eq} at the analyzed NSAs. When ambient noise levels and operational noise levels from the Pacific Wind project are included, cumulative noise levels at the NSAs would range from 46.7 to 47.5 dBA L_{eq}. Because ambient and Pacific Wind Project noise levels are greater than the project-generated noise level, the project's contribution to cumulative noise levels would be only 0.1 to 0.2 dBA. Accordingly, the project's contribution to cumulative noise impacts at the NSAs would be negligible. Therefore, the project's contribution to cumulative operational noise impacts would not be cumulatively considerable, and cumulative impacts would be less than significant.

TABLE 4.13-16: CUMULATIVE IMPACT NOISE LEVELS (DBA L_{EQ})

Receptor ID	Ambient Noise Level	Euismod Project Noise Level Only	Pacific Wind Project Noise Level Only	Cumulative Noise Level
NSA-1	35.2	32.6	47.1	47.3
NSA-2	37.3	33.9	46.5	46.7
NSA-3	37.3	32.3	47.4	47.5

Source: Noise Impact Assessment Report (**Appendix I**)

Vibration

The project's vibration levels would not exceed any applicable thresholds for ground-borne noise or vibration. Due to the rapid attenuation of ground-borne vibration, none of the cumulative projects are close enough to contribute to a potential cumulative impact for vibration. Therefore, potential vibration impacts would not be cumulatively considerable, and potential impacts would be less than significant.

SCE Whirlwind Substation Upgrades

Similar to the project, the SCE Whirlwind Substation is not located within proximity to other projects such that the noise or vibration generated from SCE Whirlwind Substation could combine with other projects, as heard or otherwise experienced from a sensitive receptor location. Therefore, the SCE Whirlwind Substation upgrades would not contribute to any cumulatively considerable noise or ground-borne vibration impacts. No cumulative impact would occur.

Mitigation Measures

Implementation of **MM 4.13-1** through **MM 4.13-3** would be required.

Level of Significance

Cumulative impacts would be less than significant.

Section 4.14

Public Services

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4.14.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the affected environment and regulatory setting pertaining to public services, which include fire and police protection. This section also addresses potential impacts on public services that could result from implementing the project, and mitigation measures that would reduce potential impacts, if applicable. Information for this section was taken from numerous sources, including online service providers 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 900,000 people in 10 incorporated cities, 42 communities, and unincorporated areas of Kern County. KCFD operates 49 full-time fire stations within eight battalions and is equipped with 60 fire engines, four ladder trucks, 34 patrol vehicles, six dozers, two helicopters, three hazardous material response teams, and other ancillary vehicles and equipment. KCFD is staffed with 621 permanent employees, including 521 uniformed firefighters (KCFD 2026).

The project site would be served by the nearest KCFD station, which is Fire Station No. 15 (Rosamond) at 3219 35th West Street in Rosamond, approximately 14 miles east of the project site. This station would be the primary responder to a fire or emergency at the project site; however, in the event of a major fire, other resources would be called on to respond, including Fire Station No. 12 (Tehachapi) at 800 South Curry Street, Fire Station No. 13 (Tehachapi) at 21415 Reeves Street, and Fire Station No. 14 (Mojave) at 1953 State Highway 58. **Table 4.14-1**, *Nearby Fire Stations,* includes more information on these four facilities, including the agency, name and address, and approximate distance from the project site.

TABLE 4.14-1: NEARBY FIRE STATIONS

Agency	Facility	Address	Approximate Distance from Project Site
KCFD	Fire Station No. 15	3219 35th Street West Rosamond, CA 93560	14 miles east
KCFD	Fire Station No. 12	800 South Curry Street, Tehachapi, CA 93561	18 miles northwest
KCFD	Fire Station No. 13	21415 Reeves Street, Tehachapi, CA 93561	18 miles northwest
KCFD	Fire Station No. 14	1953 State Route 58 Mojave, CA 93560	20 miles northeast

Station No. 15 is located within Battalion 1, Tehachapi, which serves the southeastern portion of Kern County. Battalion 1 consists of seven stations and covers approximately 951,600 acres, of which 351,276 acres are State Responsibility Area (SRA) lands. As described further in **Section 4.14.3**, *Regulatory Setting*, the California Department of Forestry and Fire Protection (CAL FIRE) has a legal responsibility to provide fire protection for this SRA land area (KCFD 2025).

As shown in **Figure 4.14-1**, *Fire Hazard Severity Zones*, the project site is within a Local Responsibility Area (LRA) and classified as a Moderate Fire Hazard Severity Zone (FHSZ) (CAL FIRE 2026a). Portions of the tie-line corridors and Whirlwind Substation fall within the LRA and Moderate FHSZ, while other areas are within the LRA but not classified as having an FHSZ. The nearest Very High FHSZ is situated approximately 5 miles southeast of the project site. Given the project site designation, the project is not considered to be within a Very High FHSZ.

Kern County has 14 mutual-aid agreements with neighboring fire suppression organizations to further strengthen emergency services (KCFD 2025).Kern County (County) 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 177 fire stations throughout Los Angeles County, dispersed across 22 battalions with nearly 3,000 fire service personnel (LACFD 2022). The nearest LACFD fire station to the project site is Station No. 112 at 8812 West Avenue E-8, Lancaster, approximately 9 miles southeast of the project site.

To regulate fire safety, the County applies and utilizes the National Fire Code set forth by the National Fire Protection Association (NFPA), California Fire Code (CFC), California Building Code (CBC), and the Kern County Ordinance Code.

The Kern County Emergency Medical Services Division (EMS) is the lead agency for the emergency medical services system and is responsible for coordinating all countywide system participants, which includes the police, fire departments, ambulance companies, other emergency service providers, hospitals, and Emergency Medical Technician training programs. The EMS includes a system of services organized to provide rapid response to serious medical emergencies, including immediate medical care and patient transport to a hospital setting. The division also covers day-to-day emergencies, disaster medical response planning and preparation, and preventative health care (Kern Public Health 2026). The nearest hospitals are Adventist Health Tehachapi Valley in the City of Tehachapi and Antelope Valley Medical Center in the City of Lancaster, approximately 19.5 miles and 19.8 miles, respectively, from the project site. An inventory of public service facilities in the project area is presented in **Figure 4.14-2**, *Public Service Locations*.

Figure 4.14-1: Fire Hazard Severity Zones

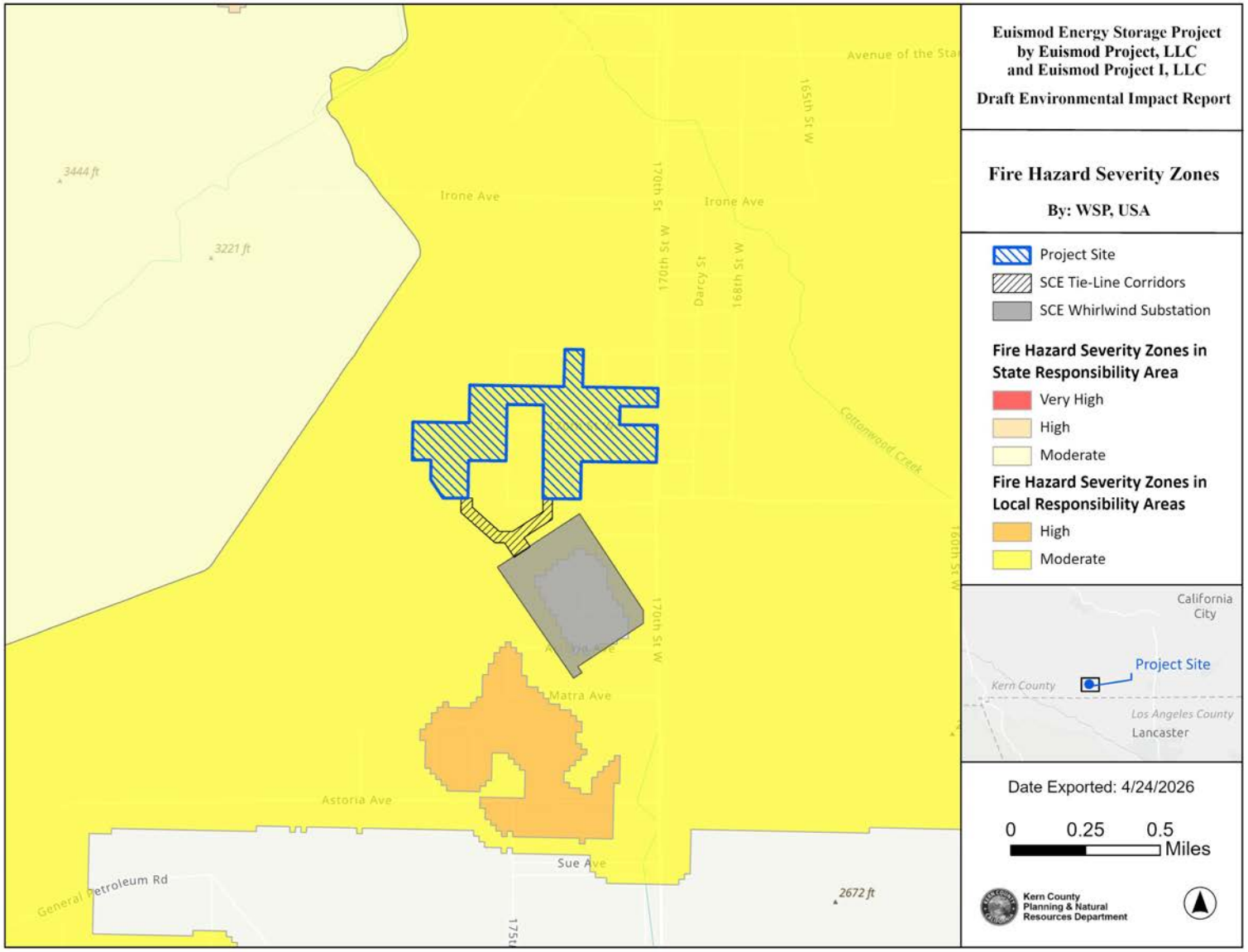
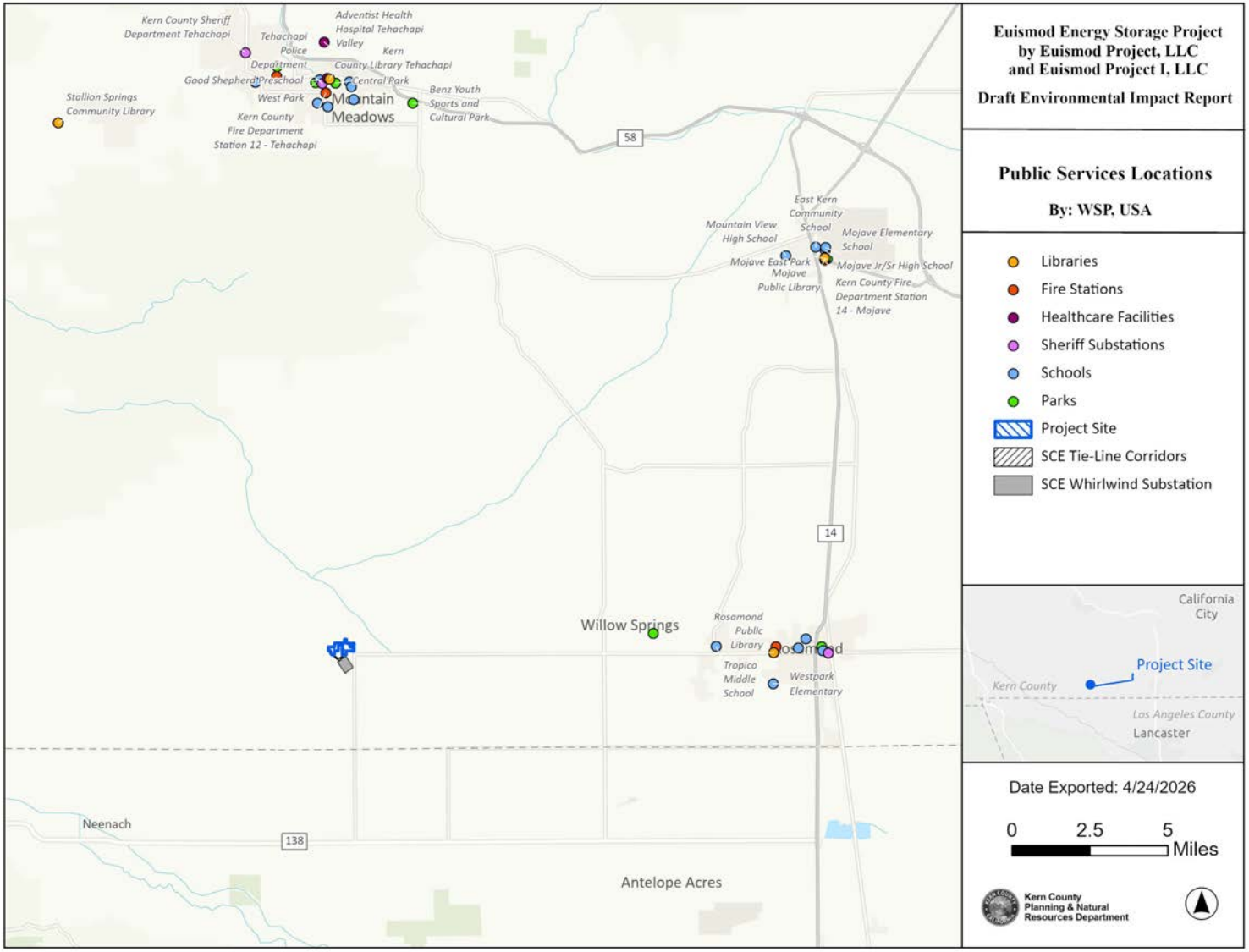


Figure 4.14-2: Public Service Locations



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, including the project site. 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 (OHV) recreation areas in the desert and mountainous areas. The KCSO also provides traffic and parking control functions, along with investigations of property damage reports and traffic accidents, and conducts complete investigations for injury, fatal, intoxication-related, and hit-and-run accidents.

The KCSO consists of 12 substations that provide patrol services (KCSO 2026a). Police, investigators, and supervisors staff the substations, and each substation has access to all department support services. The KCSO is currently staffed with 1,502 sworn and civilian employees, 627 deputy sheriff positions, 358 detention deputy positions, 40 park rangers, and 477 professional support staff (KCSO 2026b), with headquarters at 1350 Norris Road in the City of Bakersfield. The nearest substation that would provide service to the project site is the Rosamond Substation, which is approximately 15 miles east of the project site at 2978 Diamond Street, in the community of Rosamond (KCSO 2026c). Other substations in proximity to the project site include Tehachapi Substation and Mojave Substation. Information on the four closest KCSO substations to the project site is included in **Table 4.14-2**, *Nearby Sheriff Substations* and shown in **Figure 4.14-2**, *Public Service Locations*.

TABLE 4.14-2: NEARBY SHERIFF SUBSTATIONS

Agency	Facility	Address	Approximate Distance from Project Site
KCSO	Rosamond Substation	2978 Diamond Street Rosamond, CA 93560	15 miles east
KCSO	Mojave Substation	1771 State Highway 58 Mojave, CA 93501	20 miles northeast
KCSO	Tehachapi Substation	22209 Old Town Road Tehachapi, CA 93581	19 miles northwest
KCSO	Boron Substation	26949 Cote Street Boron, CA 93516	45 miles northeast

The KCSO strives to respond to calls as quickly as possible, but response times naturally vary depending on the severity of the call, staff availability, and patrol car location. In 2019, the most recent year with available data, the average response time for the KCSO was 5 minutes or less for an emergency or immediate-response incident (a crime that is in progress and/or a life-or-death situation) and 8 to 10 minutes for routine calls (a crime that has already occurred and/or an incident that is not life-threatening).

Off-Highway Vehicle Enforcement Team

In 2000, the KCSO created an OHV Enforcement Team that can be deployed to off-road riding areas and adjacent communities in Kern County, as needed. The team's goal is to provide a safe and secure environment for the OHV community and nearby residents as well as to help protect sensitive natural resources. Kern County attracts over 800,000 visitors per year to local OHV riding areas. The OHV Enforcement Team patrols numerous off-road riding areas in Kern County, including a popular riding area

near a portion of the Pacific Crest Trail that runs through Rosamond, Mojave, and Tehachapi. The OHV Enforcement Team works closely with officers from the U.S. Bureau of Land Management (BLM), California State Parks, and other local law enforcement agencies (KCSO 2026d).

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 the KCSO.

The CHP is divided into eight divisions that provide services in areas of California (CHP 2026a) (see **Figure 4.14-2**, *Public Service Locations)*. The project site is within the jurisdiction of the Inland Division, which includes the widest spectrum of traffic enforcement challenges of the CHP's field divisions. Officers working the western section of the division encounter some of the most intensely congested roads in the nation at the intersections of Interstates 10, 15, 215, and Highways 210, 91, 71, and 60 (CHP 2026b). The nearest Inland Division office, approximately 20 miles northeast of the project site, is at 1313 Highway 58 in the community of Mojave.

Schools, Parks, Other Facilities

The project site is within the Southern Kern Unified School District, which comprises Abraham Lincoln Independent Study, Rare Earth High School, Rosamond Elementary, Rosamond High School Early College Campus, Tropico Middle School, and Westpark Elementary (SKUSD 2026). Approximately 12 miles to the east, the middle school is closest to the project site.

The Kern County Parks and Recreation Department manages an extensive system of large regional parks designed to serve the population countywide and small neighborhood and community parks intended primarily to meet the recreational needs of nearby residents in unincorporated communities. The department manages eight regional parks, 25 public buildings, and 40 neighborhood parks (Kern County Parks and Recreation Department 2026), and the closest facility to the project site is the Willow Springs International Raceway, approximately 9 miles to the east. Additionally, the nationally recognized Pacific Crest Trail is approximately 0.25 miles west of the project site (Kern County 2026a).

The Kern County Library comprises 22 branches countywide, with the main branch (the Beale Memorial Library) in Bakersfield. The library system provides a full range of services and resources to over 850,000 people in every city and unincorporated area of the County (Kern County 2026b). The closest libraries to the project are the Rosamond Branch Library, approximately 7 miles southeast of the project site at 3611 Rosamond Boulevard, Rosamond, and the Mojave Branch Library, approximately 16 miles northeast of the project site at 15555 O Street, Mojave. **Figure 4.14-2**, *Public Service Locations*, shows the locations of these facilities.

4.14.3 Regulatory Setting

Federal

National Fire Protection Association Codes, Standards, and Guides

NFPA codes, standards, recommended practices, and guides are developed through a consensus standards development process approved by the American National Standards Institute. NFPA standards are recommended guidelines and nationally accepted best practices in fire protection, but they are not laws or codes unless adopted or referenced as such by the CFC or the local fire agency. The County has adopted the CFC, which applies and utilizes the International Fire Code and National Fire Code set forth by the National Fire Protection Association to regulate fire safety (Kern County 2022).

NFPA Standard 855, Standard for the Installation of Stationary Energy Storage Systems, was created to address increased use of new technologies in modern energy storage systems (ESSs) and the fire hazards associated with them. The NFPA standardizes criteria for fire protection of ESS installations based on the technology used in the ESS, environmental setting, size and separation of ESS installations, and in-place fire suppression and control systems. It also considers ventilation, detection, signage, listings, and emergency operations responding to ESS emergencies (NFPA 2026).

State

California Fire Code

The 2022 CFC (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 firefighters 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. Chapter 12 of the CFC includes requirements for energy storage systems.

Building services and systems that 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 CFC 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. Regulated features include fire protection systems; firefighter 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 (CAL FIRE)

Established in 1885 and elevated to departmental status in 1977, the Division of Forestry forms the cornerstone of CAL FIRE, which is tasked with serving and safeguarding the people of California and protecting its property and resources. Charged with protecting over 31 million acres of California's privately owned wildlands, CAL FIRE responds to an average of over 550,000 emergencies each year. In addition to wildland fires, CAL FIRE responds to other types of emergencies, including medical aids,

hazardous material spills, search and rescue missions, and floods. Through contracts with local government, CAL FIRE provides emergency services in 36 of California's 58 counties (CAL FIRE 2024a).

CAL FIRE is responsible for providing fire protection, developing regulations, and issuing fire-safe clearances for all SRA lands. SRA lands are defined based on land ownership, population density, and land use. These lands are a major source of wood, water, forage, wildlife, biological diversity, open space, recreation, and other values to the people of California. CAL FIRE does not have responsibility for LRAs, which typically include densely populated areas, incorporated cities, agricultural lands, and lands administered by the federal government (Federal Responsibility Areas). Instead, local governments are responsible for providing fire protection in LRAs and may provide structural and supplemental wildland fire protection in SRAs (California Open Data Portal 2026, BOF 2026).

CAL FIRE is required to rate FHSZs for wildfire using three categories: Moderate, High, and Very High. These categories are based on fuel loading, slope, fire weather, and other relevant factors, including areas where winds have been identified by the Office of the State Fire Marshal as a major cause of wildfire spread. FHSZs reflect variations in fire behavior and exposure and are used to develop permanent engineering mitigations associated with development in fire hazard areas (CAL FIRE 2024b).

Classification of a wildland zone as Moderate, High, or Very High Fire Hazard is based on the average hazard across the area included in the zone, which has a minimum size of 200 acres. In wildlands, hazard is a function of modeled flame length under the worst conditions and annual burn probability. Both these factors generally increase with increasing hazard level, but there may be instances where one value is Very High, and the other is low, pushing the overall hazard into a more intermediate ranking. On average, both modeled flame length and burn probability increase by roughly 40-60% between hazard classes (CAL FIRE 2026b).

California Occupational Safety and Health Administration

In accordance with California Code of Regulations, Title 8, Sections 1270, Fire Prevention, and 6773, Fire Protection and Fire Equipment, the California Occupational Safety and Health Administration has established minimum standards for fire suppression and EMS. The standards include guidelines on the handling of highly combustible materials, fire hosing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of firefighting and emergency medical equipment.

California Public Utilities Commission (CPUC) General Order 95

CPUC General Order 95 regulates all aspects of design, construction, operation, and maintenance of overhead electrical power lines and fire safety hazards for utilities subject to its jurisdiction. General Order 165 imposes inspection requirements for transmission and distribution lines, and General Order 166 requires emergency response procedures to respond to electric system failures, major outages, or hazards posed by damage to electric utility facilities. Rule 11 enables electric utilities to suspend customer service when minimum vegetation clearance requirements are not met. In addition to updating various General Order 95 requirements and ordering further study, the decision required the CPUC to create a High Fire-Threat District map identifying zones of high hazard, elevated risk, and extreme risk for destructive utility-associated wildfires (CPUC 2018).

As presented in the CPUC's High Fire-Threat District maps, the northwest corner of the project site, including the tie-line corridors and Whirlwind Substation, is within Tier 2 – Elevated risk for destructive utility-associated wildfires (CPUC 2026).

California Public Utilities Code Section 8387

State regulations relating to wildfire mitigation are set forth in Section 8387 of the California Public Utilities Code. The regulations provide that each local publicly owned electric utility and electrical cooperative shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of wildfire posed by those electrical lines and equipment. The local publicly owned electric utility or electrical cooperative is also required to prepare a wildfire mitigation plan.

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to public services. The goals, policies, and implementation measures in the Kern County General Plan (KCGP) and the Willow Springs Specific Plan related to public services that are applicable to the project are provided below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for public services applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009). Chapter 1. Land Use, Conservation, and Open Space Element

1.4 Public Facilities and Services

Goals

Goal 1: Kern County residents and businesses should receive adequate and cost-effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.

Goal 5: Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.

Goal 9: Serve the needs of industries and Kern County residents in a manner that does not degrade the water supply and the environment and protect the public health and safety by avoiding surface and subsurface nuisances resulting from the disposal of hazardous wastes, irrespective of the geographic origin of the waste.

Policies

Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.

Policy 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 that 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.

1.10 General Provisions

Goals

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving 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 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 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 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.

Willow Springs Specific Plan

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). 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 KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for public services applicable to the project are provided below. The Willow Springs Specific Plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Public Facilities

Goals

Goal 3: To restrict, if possible, any further and/or unnecessary drawdown of the water table within the plan area.

Goal 4: New development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Implementation Measures

Measure 2: The following standards reflect the level of general government services currently provided by the County of Kern. These standards do not supersede any requirements established by applicable Kern County Code and Ordinance requirements, nor do they require the County to provide or maintain any listed service or facility.

- Roadways
  - Level of Service C
- Parks and Recreation
  - 2 1/2 acres per 1,000 population of neighborhood and community parkland
- Fire Protection
  - One fire station per 8,155 population, with average manning of 3.8 on-duty firefighters per fire station
- Law Enforcement
  - 7 officers per 15,000 population, with 3 patrol cars per 7 officers sufficient to support staff and facilities including detention facilities
- Libraries
  - 17,981 square feet of library space per 34,397 population, with associated staff and books

Measure 5: Kern County and the existing district or special district shall coordinate and determine the local costs of providing an adequate facility and infrastructure improvements and expansion thereof which are necessitated by new development of any type (i.e., schools, parks, streets) and prepare a schedule of charges to be levied on the developer at the time of approval of a final map subdivision or parcel map and prior to recordation of that land division.

Measure 9: Prior to submittal of any vested or final subdivision tract map or parcel map, the developer shall furnish proof from the Southern Kern Unified School District that development of the project will not fiscally impact the school district in a negative manner.

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 18: Where individual lot sizes and/or soil types are found unsuitable for individual sewage disposal systems, as determined by the Kern County Environmental Health Services Department or the California Regional Water Quality Control Board, connection to the Rosamond Community Services District central treatment plant or other sewage treatment plant shall be required. All subdivisions and mobile home park developments, regardless of lot size, shall be required to connect to the central treatment plant or to construct, operate, and maintain "package" sewage treatment plants at a level of efficiency and effectiveness at least equivalent to that provided by the community services district central treatment plan.

Measure 20: Proper address signs shall be provided by the individual project applicants for easy identification of locations during emergencies.

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.

Seismic/Safety Element

Goals

Goal 1: To promote a safe and healthful living environment.

Goal 2: Reduce the potential for property damage and injury by requiring development standards that adequately mitigate these environmental constraints where feasible to do so.

Goal 3: Protect human life and health.

Policies

Policy 7: Compliance with site-specific issues, goals, policies, and implementation measures contained in the Seismic/Safety Element of the KCGP.

Kern County Fire Code

The County has adopted, by reference, portions of the California Building Standards Code and the Uniform Fire Code, with modifications and amendments, in Chapter 17.32 of the Kern County Code of Building Regulations (Fire Code). The purpose of the Fire Code is to prescribe the minimum requirements necessary to establish a reasonable level of fire safety to safeguard the life, property, and public welfare from hazards created by fire, hazardous materials release, and/or explosion.

The Kern County Fire Code defines a hazardous fire area as any land that is covered with grass, grain, brush, or forest and situated (for example, in an inaccessible location) so that a fire originating upon such land would present an abnormally difficult job of suppression and would result in extensive, unusual damage through fire or the resulting erosion (Kern County 2022).

Kern County Fire Department Unit Strategic Fire Plan

Last updated in 2025, the annual KCFD Unit Strategic Fire Plan assesses the countywide wildland fire situation. 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 areas of local fire risk. The plan is designed to be an assessment and planning tool only; it is the responsibility of those implementing projects to ensure that all environmental compliance and permitting processes are met, as necessary. 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. Utilizing computer-based data and geographic information systems provides a framework for comprehensive analysis of fire hazards, assets at risk, and level of service to be included in the Wildland Fire Management Plan. Additionally, the KCFD Unit Strategic Fire Plan provides an annual report of unit accomplishments, which, in 2021, included completing a number of fuel reduction projects, establishing the wildland fire facility “Camp 8,” and establishing a seasonal type 6 engine within Battalion 8’s service area (KCFD 2025).

Kern County Fire Department Multi-Jurisdictional Hazard Mitigation Plan

The Multi-Jurisdictional Hazard Mitigation Plan evaluates the risks associated with seismic events, dam failure, severe weather, and wildfire on oil and gas facilities, among other hazards. The purpose of the 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 hazard impacts. The multi-jurisdictional plan includes Kern County and the incorporated municipalities of Arvin, Bakersfield, California City, Delano, Maricopa, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. The County also encompasses areas of land controlled by federal and State land management agencies, including CAL FIRE, the U.S. BLM, and Bureau of Reclamation. While other levels of government have jurisdiction in these parts of the County, the Hazard Mitigation Plan could also be used to document and coordinate mitigation efforts among federal, State, and local jurisdictions. The Plan also covers 49 special districts that include school, recreation and park, water, community service, and other districts (Kern County 2021).

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 Kern 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 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 (KCFD 2009).

4.14.4 Impacts and Mitigation Measures

Methodology

The methodology used for the project to evaluate potential impacts on public services was as follows:

1. Evaluating existing fire and police services and personnel for the fire and law enforcement stations serving the project site
2. Determining whether the existing fire and law enforcement services and personnel are capable of servicing the project, in addition to the existing population and building stock
3. Determining whether the project's contribution to the future service population would cause fire or police station(s) to operate beyond service capacity

The determination of potential project-related impacts on fire protection, emergency medical, and police protection services considers both the level of service demands generated by the project and the ability of the KCFD and the KCSO to meet those demands while maintaining existing service levels throughout Kern County. In some cases, meeting increased demand could require the construction of new facilities or the expansion of existing facilities. The methodology for this analysis included a review of published information pertaining to KCFD and KCSO. Based on this information, together with the application of professional judgment, potential impacts were evaluated in accordance with the 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 does the following:

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: Would the Project 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?

Fire Protection

Construction and Decommissioning

As described in **Chapter 3**, *Project Description*, it is expected that an average of approximately 100 field construction workers, with up to 200 field construction workers during peak construction periods, would be required during construction of the project. The presence of construction workers would be temporary, and the project would likely be built in up to two distinct phases over the course of approximately two years.

According to CAL FIRE, the project site is within an SRA and is classified as a Moderate FHRZ. The closest Very High FHSZ is located approximately 5 miles southeast of the project site (CAL FIRE 2026a). The surrounding landscape of the project site consists primarily of low topographic relief and sparse vegetation with little potential for fuel buildup, indicating that the potential for wildfires is relatively low. Additionally, site preparation includes clearing of vegetation that would unduly interfere with project construction, further reducing vegetation fuel buildup.

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. Service demands as a result of on-site construction personnel on-site would occur during the construction of the 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 the potential demand for fire protection services. While project construction activities would increase service demand levels, the presence of on-site construction personnel would be temporary, as the construction period for the project would last approximately two years.

Although construction and decommissioning (removal of the facility) activities would be limited and temporary in nature, fire hazards from construction activities would potentially increase the need for fire response and emergency services. Potential fire hazards during construction and decommissioning could result from hot work operations, which produce sparks, heat, or open flames that could ignite combustibles present on the project site. Additionally, power generators could experience electrical faults, thereby producing potential fire hazards. These fire hazards could increase the demand for fire response and emergency services and are considered to have a potentially significant impact.

While construction of the project would increase the number of people on the project site and potential sources of fire hazards, all construction activities would comply with applicable wildland fire management plans and policies established by CAL FIRE and the KCFD. The project would also comply with the NFPA 70E standards for hot electrical work. Additionally, the project proponent's engineering, procurement and construction contractor would implement measures for worker safety during construction pursuant to California Division of Occupational Safety and Health regulations and guidance and other best management practices (see **Section 4.9**, *Hazards and Hazardous Materials*).

Beyond compliance with applicable regulations, standards, plans, and policies, the project would implement **Mitigation Measure (MM) 4.14-1**. This mitigation measure requires the project proponent to develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions consistent with the current CFC and Kern County Fire Code. The Fire Safety Plan would apply during construction and decommissioning periods and would include emergency fire precautions for vehicles and equipment, fire rules, and training to ensure that project personnel are equipped to handle fire threats. Given the temporary and limited nature of the project's construction and decommissioning phases, and with the implementation of **MM 4.14-1**, potential impacts on fire protection and emergency response services and facilities would be less than significant.

Operation

While the project would be operated remotely, some staff would be needed on-site during routine operations. In general, on-site staff would be required for activities such as site security, inspections, and administrative duties (for example, receiving and managing an inventory of spare parts and equipment). It is anticipated that approximately two full-time employees would be needed for initial site operations. The site staffing needs could increase to approximately six full-time employees for routine operations following completion of construction in all three Battery Energy Storage System (BESS) areas. In addition, the project may require approximately four to six part-time employees for periodic maintenance needs, such as repair or replacement of a failed component, vegetation management, and maintaining stormwater management systems. Because the project would not result in a substantial increase in employees or population, it would

not change the existing demand for fire protection or emergency services. Therefore, the project would not substantially increase the need for new fire or emergency service staff or facilities.

While the project would not substantially increase the number of employees or population, the operation and maintenance of a BESS facility would introduce new fire risks to the project site. Although unlikely, maintenance activities could introduce fire risks to the project site. Planned maintenance would involve repairing or replacing failed or faulty components, managing vegetation, and maintaining stormwater management systems, which could introduce flammable materials to the project site. Additionally, maintenance activities may be required due to unexpected damage to or failure of equipment or facilities.

However, the BESS system would be designed and constructed to meet or exceed all fire safety codes and standards in effect in Kern County, including NFPA standards, the National Electrical Code, and the CFC. NFPA 855 standards specifically aim to reduce risks associated with electric energy storage facilities. The enclosures would be equipped with fire prevention, detection, and isolation methods and materials. At a minimum, this would include smoke and fire detection sensors; ground fault detection; alarms; and systems for the automatic shutdown of cooling fans and the opening of electrical contacts in the battery system. The project would also include an Incident Command Center, complete with a dedicated fire water and fire alarm annunciator panel located at least 300 feet from the nearest battery enclosure.

NFPA 855 also requires comprehensive safety planning submittals to the local fire authority. This includes providing the results of bench-scale fire and explosion testing conducted by the manufacturer, as well as a Hazard Mitigation Analysis specific to the type of battery being used. Additionally, an Emergency Response Plan must be developed to ensure prompt, safe, and effective response in the event of an emergency. NFPA 855 also requires that initial and annual refresher training be provided for on-site employees. The project proponents would coordinate with the KCFD to facilitate site-specific training for their staff. The project is not expected to significantly increase the population and would adhere to all regulatory requirements and standards. As a result, the project would not substantially increase the need for additional fire department staff or new facilities.

In addition to compliance with regulatory requirements and applicable standards, the implementation of **MM 4.14-1** calls for the development and implementation of a Fire Safety Plan, which would also be implemented during project operations. The Fire Safety Plan would further reduce potentially significant impacts on public services resulting from fire hazards. See **Section 4.9**, *Hazards and Hazardous Materials*, and **Section 4.18**, *Wildfire*, for additional discussion of the fire safety systems applicable to the project's energy storage facility.

The implementation of **MM 4.14-2** involves the project proponent paying all legally required property taxes. If the project qualifies for reduced or excluded property taxes under state legislation or guidance from the State Board of Equalization, then the project shall pay a Cumulative Impact Charge (CIC). Additionally, through the implementation of **MM 4.14-3**, the project proponent/operator would work with the County to explore maximizing the use of sales and use taxes from the construction of the project. By implementing **MM 4.14-1** through **MM 4.14-3**, any potential operational impacts on public services would be reduced. The project would not result in the need for new or physically altered KCFD facilities, and potential impacts would be less than significant.

Law Enforcement Protection

Construction and Decommissioning

As described 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 is located approximately 15 miles east of the project site and would provide primary law enforcement services to the project site. Similar to fire protection services, the need for sheriff protection services would increase temporarily during the construction and decommissioning of the project.

The project site is located in a relatively remote location surrounded by generally undeveloped land and sparse rural residential development. It is unlikely that project construction and decommissioning would attract attention and that would make project facilities susceptible to crime. Additionally, an 8-foot-high fence with security wire would be installed around the project's perimeter for the life of the project and would be continuously monitored by security cameras throughout project operations. Limiting access to the site would be necessary both to ensure public safety and to protect the equipment from potential theft and vandalism. Through the implementation of safety and security features on the project site, a substantial increase in demand for law enforcement services is not expected.

As discussed in **Section 4.15**, *Transportation* construction activities are expected to temporarily increase traffic volumes along Rosamond Boulevard and 170th Street West during construction. However, the added traffic associated with workers commuting to the project site, haul routes, deliveries, and other project-related traffic would be temporary. Therefore, the project would not have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways, nor would it require additional facilities to maintain service.

While project construction and decommissioning would increase the number of people on the project site, the increase would be temporary and negligible and, thus, would not substantially increase the 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 decommissioning. Thus, impacts on law enforcement services during project construction would be less than significant.

Operation

Although unlikely, project operations could potentially attract vandals or present other security risks, such as theft or destruction of equipment and material. As described above, the project site would be closed to public access by chain-link fencing with security wire. Secured pedestrian gates would be provided adjacent to each vehicle access gate and at other locations on the perimeter. Furthermore, motion-sensitive and infrared cameras and other monitoring equipment would also be installed throughout the facility, including equipment mounted on poles up to 20 feet tall. These security measures would minimize the need for KCSO surveillance and response during project operations. Therefore, new or physically altered KCSO facilities would not be required to accommodate the project.

The additional volume of vehicles associated with workers commuting to the project site during routine maintenance would be minor and is not expected to adversely affect traffic (see **Section 4.15**, *Transportation*, for more details). Therefore, impacts on the CHP patrol are not anticipated. Impacts on law enforcement services during project operations would be less than significant.

In addition, as part of **MM 4.14-2** and **MM 4.14-3**, the project proponent would be required to pay the County a CIC, as applicable, to compensate for any potential impacts to public services provided by Kern

County General Fund (including law enforcement services) resulting from operation of the project. With the implementation of these mitigation measures, potential impacts would be less than significant.

Schools, Parks, Other Facilities

Construction and Decommissioning

As noted above, the construction workforce for the project is expected to peak at 200 workers; however, the average daily workforce is expected to be approximately 100 workers during project construction. The presence of construction workers at the project site would be temporary, as construction is expected to take approximately two years. With the implementation of **MM 4.14-4**, it is expected for most of the construction workforce to live in the region and would not likely relocate their households due to this employment opportunity. Even if workers came from out of the area, they would likely return to their out-of-town residences once the facilities were built. If temporary housing is necessary for construction workers, sufficient accommodations are expected to be available in nearby hotels in Rosamond, Mojave, Lancaster, or other local communities. Therefore, a substantial temporary increase in population—which could adversely affect or increase the demand for local schools, park facilities, or other public facilities, such as post offices, courthouses, and library services, is not expected to occur. Potential impacts on other public facilities resulting from project construction are anticipated to be less than significant.

Potential impacts related to schools, parks, and other public facilities resulting from decommissioning of the project are expected to be similar to or less than those experienced during construction. Potential impacts during decommissioning are anticipated to be less than significant.

Operations

Approximately two full-time employees are anticipated to be needed for initial site operations. The site staffing needs could increase to approximately six full-time employees for routine operations following completion of construction in all three BESS areas. In addition, the project may require approximately four to six part-time employees for periodic maintenance. As with construction, project employees would likely come from an existing local and/or regional labor force and would not relocate their households as a result of working on the project. However, even if employees are hired from outside the area and need to relocate to eastern Kern County, up to twelve additional households would not result in a substantial increase in the number of users at local schools, parks, or other public facilities. Thus, potential impacts to schools, parks, or other public services resulting from project operations are anticipated to be less than significant.

SCE Whirlwind Substation Upgrades

The project includes two 220-kilovolt overhead tie-lines to the Southern California Edison (SCE) Whirlwind Substation located on the adjacent parcels to the south of the project site. SCE's work activities outside of the Whirlwind Substation, including tie-line access clearing, installation of telecommunications lines, installation of tie-line support poles or towers, stringing of overhead conductors, and operation and maintenance of the tie-lines to the Point of Change of Ownerships (POCOs), would disturb all land within a 100-foot-wide corridor centered on each of the offsite tie-line alignments. Within the existing Whirlwind Substation, each tie-line would require the installation of facilities for a new 220-kilovolt switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3**, *Project Description*.

The construction equipment and methods used for SCE's work would be similar to those of the project. The two tie-lines and interconnection are expected to take approximately six months to construct, with an

average of 14 construction workers on-site. Furthermore, the installed infrastructure at the Whirlwind Substation, the tie-lines connecting the Whirlwind Substation to the POCO, and SCE's control and metering equipment within the collector substations would be operated by SCE and would be unmanned.

Periodic inspections would occur in conjunction with inspections that are ongoing for the existing substation and local high voltage transmission infrastructure. On occasion, there could be a need for repairs or maintenance if a component fails, becomes unreliable, or is unsafe for any reason. If maintenance or repair work is required, it could entail work similar to the construction of those facilities using some of the same types of equipment. However, these maintenance and repair efforts would be less intensive due to the infrastructure being in place and would generally take less time to complete.

Therefore, it is not anticipated that there would be a substantial increase in the local population due to the construction or operation of these facilities. No substantial increase in public services, including the service demand for fire protection, law enforcement, schools, parks, and other related facilities, is expected. Thus, potential impacts on public services as a result of the SCE Whirlwind Substation upgrades are expected to be less than significant.

Mitigation Measures

Implementation of **MM 4.14-1** through **MM 4.14-4** would be required.

MM 4.14-1: Prior to the issuance of grading or building permits, the project proponent/operator shall develop and implement a Fire Safety Plan for use during construction, operation, and decommissioning.

The project proponent/operator shall submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval. A copy of the approved Fire Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department. The Fire Safety Plan shall contain notification procedures and emergency fire precautions, including, but not limited to, the following:

a. All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.

b. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory installed (type) muffler in good condition.

c. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees.

d. Procedures shall be established for minimizing potential ignition, including, but not limited to, vegetation clearing and management, parking requirements/restrictions, idling restrictions, smoking restrictions, and proper use of gas-powered equipment.

e. Personnel shall be trained in the practices of the Fire Safety Plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires to prevent them from growing into more serious threats.

f. The project proponent/operator shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives

to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel.

g. Building plans shall be included for the energy storage system to verify adherence to Kern County and California Building and Fire Code standards.

h. Information for first responders about the type of battery energy storage technology on site, potential hazards and mitigations, and recommended firefighting tactical procedures in case of an accidental fire.

MM 4.14-2: The project shall pay all legally required property taxes; or

a. If the project qualifies, based on State Legislative action and the State Board of Equalization guidance, for any reduction in property taxes under a specific property tax relief for battery energy storage, regardless of the name, then the following Cumulative Impact Charge (CIC) shall apply. The first annual payment is to be paid by December 31 of the year the first legislatively provided property tax reduction is assessed, and annually every year for the life of the project, or as a lump sum for multiple years, until the project is decommissioned and the Conditional Use Permit is voided.

1. Submittal of Building Permit or Calculation of Amount

A. Any building permit or calculation of amount submitted shall be accompanied by a map and legal description of the entire approved Conditional Use Permit area.

B. The map shall calculate the CIC net acreage as follows:

i. Total gross acreage of the approved Conditional Use Permit.
ii. Total acres of recorded easements.
iii. Delineation of any permanent structures or energy storage that is not covered under a property tax reduction and evidence from legislation or State Board of Equalization that they have no reduction in taxes.

C. Formula is Net Acreage = B.1 minus B.2 and B.3, if applicable.

D. Temporary storage areas or non-permanent commercial coaches or cargo containers for construction or operations are not eligible for inclusion under B.3, above.

E. All areas of buildings, accessory improvements and easements used in the calculations shall be shown on the submitted Map.

2. Calculation of Cumulative Impact Charge (CIC) and annual payment

A. A payment of $690 per net acre shall be paid annually for all acres in the approved Conditional Use Permit regardless of phased implementation of building permits, the total number of building permits, or type of building permit issued.

B. The first annual payment is to be paid by December 31 of the year the first property tax reduction is assessed. If it is not paid by December 31 of that year, then a notice of violation of the Conditional Use Permit shall be filed and the

procedure in Chapter 19.114 shall commence immediately under the authority of the Director.

C. Annual payments are due every year on the date of the first payment.

D. Payments shall be made to the Planning and Natural Resources Department for transfer directly to the County Administrative Office Fiscal Division (CAO) and labeled Cumulative Impact Charge (CIC) with the project name, location, and APNs.

E. An advance payment option for a lump sum of all payment years, or a reduction in each year's payment for 5 or more years, may be requested by submittal of a written request to the Planning and Natural Resources Department with details of the offer, no later than 60 days before the annual payment is due. A 10% discount on the lump sum amount will be applied if the advance payment option is accepted by the County Administrative Office Fiscal Division (CAO) by written response.

MM 4.14-3: The project proponent/operator shall work with the County to determine how the use of sales and use taxes from construction of the project can be maximized. This process shall include, but is not necessarily limited to, the project proponent/operator obtaining a street address within the unincorporated portion of Kern County for acquisition, purchasing and billing purposes, and registering this address with the State Board of Equalization. As an alternative to the aforementioned process, the project proponent/operator may make arrangements with Kern County for a guaranteed single payment that is equivalent to the amount of sales and use taxes that would have otherwise been received (less any sales and use taxes actually paid); with the amount of the single payment to be determined via a formula approved by Kern County. The project proponent/operator shall allow the County to use this sales tax information publicly for reporting purposes.

MM 4.14-4: Prior to the issuance of building permits, 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

Impacts would be less than significant.

4.14.5 Cumulative Setting, Impacts, and Mitigation Measures

As described in **Table 3-4**, *Cumulative Projects List*, in **Chapter 3**, *Project Description*, there are five projects identified in the cumulative impact study area. The geographic scope for cumulative public services impacts is based on the service area for each of the fire, sheriff, and other public service facilities serving the project site.

As discussed above, the project has the potential to increase the demand for certain public services, which would be in addition to the cumulative increases in demand for such services resulting from the cumulative projects identified in Kern County. However, **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. Implementation of **MM 4.14-2** through **MM 4.14-4** requires the project proponent to pay CIC or property taxes, as applicable, to reduce significant impacts to fire or law enforcement protection services resulting from the project. With payment of the required CIC or property taxes, project-generated demand for additional fire or law enforcement protection services, facilities, or personnel required would be appropriately funded. Implementation of these mitigation measures would also require the project proponent to work with the County to determine how sales and use taxes from project construction can be maximized, and provide a letter detailing efforts encouraging contractors to hire at least 50 percent of workers from local Kern County communities. Similarly, all other cumulative projects located within these fire and law enforcement service areas, and subject to the CIC requirements, must pay this CIC fee. With the implementation of the described mitigation measures, the project would comply with the goals, policies, and implementation measures of the KCGP. The other cumulative projects would also be expected to avoid or mitigate impacts on public services, and cumulatively significant impacts would be less than significant. Therefore, the project's incremental effect is not cumulatively considerable when viewed in connection with the effects of other cumulative projects. The project would not result in a cumulatively considerable contribution to a significant cumulative impact related to public services with the incorporation of **MM 4.14-1** through **MM 4.14-4**.

SCE Whirlwind Substation Upgrades

As discussed above and in **Chapter 3**, *Project Description*, SCE would design, construct, own, and operate the tie-lines extending from the respective POCO poles across the project site boundary to the interconnection points at the Whirlwind Substation. A substantial increase in the local population would not result from the construction or operation of these facilities. Therefore, these upgrades are not expected to substantially increase the service demand for fire protection, law enforcement, schools, parks, and other related facilities, and no new public service facilities would be required.

Mitigation Measures

Implementation of **MM 4.14-1** through **MM 4.14-4** would be required.

Level of Significance after Mitigation

Cumulative impacts would be less than significant.

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Section 4.15

Transportation

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Section 4.15
Transportation

4.15.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the affected environment and regulatory setting for transportation. It also describes potential transportation-related impacts that would result from implementation of the project, and mitigation measures that would reduce these impacts, if applicable.

Information in this section is based primarily on the *Transportation Impact Study* (TIS) (**Appendix K1**), *Construction Vehicle Miles Traveled Study* (**Appendix K2**), and the *Construction Level of Service Study* (**Appendix K3**).

4.15.2 Environmental Setting

The project site consists of 10 parcels that comprise approximately 120 acres proposed for development of a battery energy storage system (BESS) facility. The site is situated approximately 8 miles west of the unincorporated community of Rosamond and approximately 17 miles south of the incorporated City of Tehachapi. The project site is also approximately 15 miles west of State Route (SR-) 14 and 6 miles north of SR-138.

Regional Setting

Major Highways

The project site is located near three major highways that would provide access to the general vicinity of the proposed project during the construction and operation phases. SR-138 is approximately 5 miles south of the project site, SR-14 is approximately 15 miles east of the project site, and SR-58 is located approximately 20 miles northeast of the project site.

SR-138 is an east–west state highway that traverses the northern edge of the Los Angeles Basin, providing regional access across the Antelope Valley and into the Cajon Pass. SR-138 connects I-5 near Gorman with SR-18 near Crestline, passing through Lancaster, Palmdale, and Phelan. Along its corridor, SR-138 includes both two-lane rural highway segments and wider divided sections, with major junctions at SR-14 in the Palmdale–Lancaster area and at I-15 in Cajon Junction.

SR-14 is a divided highway that runs parallel to Interstate 5 (I-5) in the eastern portion of Kern County, providing regional access to the project site. SR-14 connects Santa Clarita (Los Angeles County) and Inyokern (Kern County), and passes through Palmdale, Lancaster, Rosamond, and Mojave.

SR-58 is an east–west state highway that traverses San Luis Obispo, Kern, and San Bernardino counties, providing regional access across the southern San Joaquin Valley and through the Tehachapi Mountains into the Mojave Desert. SR-58 connects US-101 near Santa Margarita with I-15 in Barstow, passing through Bakersfield, Tehachapi, and Mojave. The corridor includes a mix of freeway and expressway segments, with major grade-separated interchanges at I-5 west of Bakersfield, SR-99 in Bakersfield, and SR-14 near Mojave.

Scenic Highways

System, there are no Designated State Scenic Highways within Kern County (see **Subsection 4.15.3**, *Regulatory Setting*, for more information on the State Scenic Highway Mapping System). The closest Eligible Scenic Highways, both located outside Kern County, are SR-14 (portion north of SR-58), located approximately 15 miles northeast of the project site, and SR-58 (portion east of SR-14), located approximately 20 miles northeast of the project site (Caltrans 2026).

In addition to the State Scenic Highway Mapping System, the Kern County General Plan (KCGP) Circulation Element discusses scenic routes within Kern County and the process for local designation. The KCGP Circulation Element identifies three potential scenic routes, including portions of SR 14 north of Mojave and SR 58 between Mojave and Boron. These segments are over 10 miles from the project site; therefore, no officially designated or eligible State Scenic Highways or scenic routes occur in the direct vicinity of the project site.

As part of the Kern County General Plan Circulation Element goals, policies, and implementation measures, Kern County (the County) adopted a Scenic Corridor Combining District to designate areas that contain unique visual and scenic resources as viewed from a major highway or freeway. The project site is not located within a Scenic Corridor Combining District.

Public Transportation

Kern Transit provides passenger bus service between and in the rural communities of Kern County. There are 16 fixed transit routes, and Dial-A-Ride service is available in most communities. However, the project is located in a rural area with limited transit. The transit system offers intercity service, local transit service, and connections to Metrolink in Lancaster. The East Kern Express provides fixed-route scheduled services between Bakersfield and Lancaster on SR-58 and SR-14, with stops in the communities of Tehachapi, Keene, Mojave, and Rosamond. No public transit routes pass or stop near the project site.

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. According to the 2018 Kern Region Active Transportation Plan (Kern COG 2018), there are no existing bikeways in Rosamond or the direct vicinity of the project site. The pedestrian network is fragmented, and Rosamond Boulevard has inconsistent sidewalks, with low-visibility crosswalks at major intersections.

A portion of the Pacific Crest National Scenic Trail (commonly known as the Pacific Crest Trail or PCT) is located approximately 0.3 miles northwest of the project site.

Railways

The Union Pacific Mojave Subdivision, which runs north–south through the Antelope Valley, is situated approximately 15 miles east of the project site near the community of Rosamond (Kern County 2011). The California High Speed Rail Authority is planning and permitting a high-speed train corridor from northern to southern California. The Bakersfield to Palmdale section of the high-speed train corridor was evaluated in a joint California Environmental Quality Act/National Environmental Policy Act document, completed in August 2021. The approved and adopted alignment does not cross through any portion of, and is not in the direct vicinity of, the project site (CHSRA 2021).

Airports

Public and private airports located within a 20-mile radius of the project site are described below.

Rosamond Skypark is a privately owned and operated residential airport open for public use and located approximately 13 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 approximately 29 flight operations per day.

General William J. Fox Airfield is a public airfield located approximately 15 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 operations. In operation since 1959, the airfield serves an average of approximately 224 flight operations per day.

Tehachapi Municipal Airport is a public airport located approximately 17 miles north of the project site. The airport has a single 4,031-foot asphalt runway and serves general aviation aircraft, including private fixed-wing aircraft and glider operations. The facility is owned and operated by the City of Tehachapi and primarily supports local and transient general aviation activity.

Mojave Air & Space Port is a public airfield located approximately 20 miles northeast of the project site. This airport has three asphalt runways (with lengths of approximately 3,800, 7,000, and 12,500 feet) and primarily serves general aviation aircraft, with additional commercial, air taxi, military, and aerospace operations. In operation since 1940, the airport averages dozens of flight operations per day and was the first facility in the United States to be certified as a commercial spaceport by the Federal Aviation Administration in 2004.

Military Aviation

Kern County has two military aviation installations: the China Lake Naval Air Weapons Station and Edwards Air Force Base, both of which are located in the eastern part of Kern County. Each installation has unique flying operations, and their primary mission is to test military aircraft and weapon systems. Due to the military bases' required flying missions, aircraft fly beyond the boundaries of the installations at supersonic speeds and sometimes as low as 200 feet above the ground. In order to minimize flight hazards to non-military aircraft, the military aircraft from these installations fly within restricted airspace known as the Joint Service Restricted R-2508 Complex. This complex is considered an extension of the airspace for these military aviation installations and their flying missions. Mojave Air and Space Port and Inyo Kern Airport both provide civilian flight testing and drone testing capabilities. Mojave Air and Space Port is also the first Federal Aviation Administration (FAA) licensed civilian space flight testing facility in the United States (AirNav n.d.). As discussed in **Section 4.9**, *Hazards and Hazardous Materials*, the nearest restricted airspace is approximately 7 miles northeast. This includes the Isabella Military Operations Area and the Joint Service Restricted R-2508 Complex of the Edwards Air Force Base.

Local Setting

Site Access

Regional access to the project site would be provided primarily via SR-14 and SR-138. Local access would be primarily provided from 170th Street West, Avenue A, and Rosamond Boulevard. Construction staging and parking would occur onsite near active work areas, including an approximately 3-acre temporary laydown yard located near 170th Street West. On-site driveways/fire lanes would be engineered to meet Kern County Fire Department (KCFD) requirements, including but not limited to compacted subgrade and

paved or other durable erosion-resistant surfacing to support response apparatus weighing up to 75,000 pounds.

The project would interconnect to the Southern California Edison (SCE) Whirlwind Substation via two overhead electric tie-lines. SCE work areas would also be accessed from 170th Street West. The Whirlwind Substation is served by an existing approximately 30-foot-wide engineered concrete driveway. Tie-line work areas would be accessed via the unpaved, approximately 18-foot-wide Rosamond Boulevard, extending west from 170th Street West. Project construction is not expected to require any road closure, although tie-line construction may temporarily restrict access where the tie-lines cross the unpaved road on SCE property west of Rosamond Boulevard.

The local circulation system near the project site consists of 170th Street West, Avenue A, and Rosamond Boulevard. The following describes these primary local access roadways.

170th Street West is a north-south roadway that extends approximately 10 miles from Rosamond Boulevard in the north to Lancaster Road in the south. Within the Willow Springs Specific Plan area, the southernmost three miles of 170th Street West are designated as arterial (major highway), while the northern two miles within the plan area are designated as collector (secondary highway) per the Circulation Element of the Willow Springs Specific Plan. It provides access from agricultural areas to east-west arterials and local roadways. In the project vicinity, it operates as a two-lane paved roadway with graded shoulders south of Rosamond Boulevard and a dirt road north of Rosamond Boulevard.

Avenue A is a paved two-lane, east-west roadway with graded shoulders extending from 170th Street West until Sierra Highway, with an interchange at SR-14. It is designated as an arterial by the Circulation Elements of both the KCGP and the Willow Springs Specific Plan. In the project vicinity, Avenue A provides access to rural residential homes and agricultural land uses. Avenue A acts as the dividing line between Kern County and Los Angeles County.

Rosamond Boulevard is designated as an arterial by the Circulation Element of the Willow Springs Specific Plan throughout the majority of the Willow Springs Specific Plan area; however, it becomes a local road traveling west at the intersection with 170th Street West. The Circulation Element of the KCGP designates Rosamond Boulevard as an arterial. It serves as the main east-west circulation route for the Rosamond and Willow Springs areas, extending from 170th Street West through Edwards Air Force Base where it turns northward before connecting to SR-58. In the project vicinity, Rosamond Boulevard exists as a two-lane roadway with graded shoulders.

Public Access Easement Vacations

The project would vacate existing public access easements for future road reservations within the project site. These public access easements are not developed and would not be useable once the project is implemented. Vacating these access easements would not restrict legal access to any surrounding parcel. Refer to **Chapter 3**, *Project Description*, **Figure 3-4.** *Easement Vacation*, for a description of the exact locations of these access easements.

4.15.3 Regulatory Setting

Federal

Federal Aviation Administration

The FAA regulates aviation at regional, public, and private airports. The FAA regulates objects affecting navigable airspace. Any structure that would constitute a hazard to air navigation, as defined in 14 Code of Federal Regulations (CFR) Part 77, requires issuance of a permit from Caltrans's Aeronautics Program. The permit is not required if the FAA aeronautical study determines that the structure has no impact on air navigation.

As described in 14 CFR 77.9 (construction or alteration requiring notice), each sponsor who proposes any of the following construction or alteration scenarios shall notify the FAA in the form and manner as follows:

- *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 (USC) Section 46301(a).

State

California Department of Transportation

Caltrans has jurisdiction over state highways and sets maximum load limits for trucks and safety requirements for oversized vehicles that operate on highways. 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, 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 2021).

California Environmental Quality Act (Senate Bill 743)

Public Resources Code Section 21099 and CEQA Guidelines Section 15064.3, subdivision (b). Codified in Public Resources Code (PRC) Section 21099, Senate Bill (SB) 743 required changes to the California Environmental Quality Act (CEQA) *Guidelines* (California Code of Regulations [CCR], Title 14, Div. 6, Ch. 3, § 15000 *et seq.*) regarding the analysis of transportation impacts. Pursuant to PRC Section 21099(b)(1), the criteria for determining the significance of transportation impacts must "promote the reduction of greenhouse gas (GHG) emissions, the development of multimodal transportation networks, and a diversity of land uses." (See adopted CEQA *Guidelines* Section 15064.3(b), Criteria for Analyzing Transportation Impacts). To that end, in developing the criteria, the Governor's Office of Land Use and Climate Innovation (LCI) (formerly the Office of Planning and Research [OPR]) and the California Natural Resources Agency certified and adopted changes to the CEQA *Guidelines* that identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. With the California Natural Resources Agency's certification and adoption of the changes to the CEQA *Guidelines*, automobile delay, as measured by "level of service" (LOS) and other similar metrics, no longer constitutes a significant environmental effect under CEQA (PRC Section 21099(b)(3)).

Caltrans Guidance. To provide further guidance regarding SB 743 implementation, Caltrans replaced the *Guide for the Preparation of Traffic Impact Studies (Caltrans 2002)* with the *Vehicle Miles Traveled-Focused Transportation Impact Study Guide* (Caltrans 2020a). Consistent with SB 743, Caltrans now uses VMT rather than LOS as the primary metric for evaluating transportation impacts under CEQA. Caltrans recommends applying LCI's VMT thresholds and assessment methodologies presented in the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (LCI 2018). The Technical Advisory includes screening criteria that allow agencies to identify projects that may result in a less-than-significant impact without preparing a detailed VMT analysis (see CEQA Guidelines Sections 15063(c)(3)(C), 15128, and CEQA Guidelines Appendix G). Under the Technical Advisory, projects generating fewer than 110 vehicle trips per day are assumed to have a less-than-significant transportation impact.

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to transportation. The goals, policies, and implementation measures in the KCGP and the Willow Springs Specific Plan related to transportation that are applicable to the project are provided below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for transportation applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

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 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 Measures

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

Goals

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 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 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

Goals

Goal 1: Provide a means for guiding decisions on vacating public roads.

Goal 2: Kern County intends to set up a system maintaining and coordinating road vacation procedures in all elements of the General Plan and the incorporated cities general plans.

Policies

Policy 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 to attain and maintain the State air quality standard.

Goals

Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern COG's CMP.

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 the Kern COG as the County's Congestion Management Agency (CMA).

Policy 2: The CMA is responsible for developing, adopting, and annually updating a CMP. The CMP is to be developed in consultation with, and with the cooperation of, the regional transportation agency (also the Kern COG), regional transportation providers, local governments, Caltrans, and the air pollution control district.

Implementation Measures

Measure A: The Kern COG 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.

2.4.10. Rosamond – Willow Springs

Goals

Goal 3: Prevent future circulation system overloads between Antelope Valley area, Los Angeles County on the south, and Mojave and Tehachapi areas on the north.

Policies

Policy 4: The County should monitor development applications as they relate to traffic generation developed for this plan. If traffic resulting from projects such as General Plan amendment(s) would exceed current volume to capacity projections, mitigation is required if development causes roadways to fall below LOS D and LOS C for Caltrans roadways. 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. This is triggered if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build off-site transportation facilities. These enhancements would reduce traffic congestion impacts.

Policy 6: Continue collecting the Traffic Impact fee to help construct needed circulation improvements.

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: 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 site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). The Willow Springs Specific Plan was adopted in 1992 and contains goals, policies, and implementation measures that are compatible with those in the KCGP, but are tailored to the particular needs of the Willow Springs area. The recommendations, analysis, and implementation measures in the Willow Springs Specific Plan for transportation applicable to the project are provided below. The Willow Springs Specific Plan contains additional recommendations, analysis, 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 as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Circulation Element

Goals

Goal 3: To maintain adequate traffic safety.

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.

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 CMP, and Kern COG was designated as the Congestion Management Agency.

The CMP provides a systematic process for managing congestion and information regarding transportation system performance, and alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet State and local needs. The purpose of the CMP is to ensure that a balanced transportation system is developed that relates population growth, traffic, growth, and land use decisions to transportation system LOS performance standards and air quality improvement. The program attempts to link land use, air quality, transportation, and 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

Kern COG *2022 Regional Transportation Plan and Sustainable Communities Strategy* (RTP/SCS) (Kern COG 2022) was adopted on July 21, 2022, and serves as the blueprint for the region's multimodal transportation system, including freight, intermodal, and aviation facilities. The RTP/SCS is updated every four years and includes the Sustainable Communities Strategy (SCS) required by SB 375, which promotes the integration of transportation planning, land use planning, and regional housing needs allocations. The

SCS is intended to specifically address emission reductions from passenger vehicle travel and includes regional per-capita emission reduction targets of 9 percent by 2020 and 15 percent by 2035, compared to the baseline year 2005.

The 2022 RTP/SCS is guided by the following seven core goals:

1. Mobility—Improve the mobility of people and freight.
2. Accessibility—Improve accessibility to, and the economic wellbeing of, major employment and other regional activity centers.
3. Reliability—Improve the reliability and safety of the transportation system.
4. Efficiency—Maximize the efficiency and cost effectiveness of the existing and future transportation system.
5. Livability/Quality of Life—Promote livable communities and satisfaction of consumers with the transportation system.
6. Sustainability—Provide for the enhancement and expansion of the system, while minimizing effects on the environment.
7. Equity—Ensure an equitable distribution of the benefits among various demographics and user groups.

Rosamond-Willow Springs Traffic Impact Fee Program

The Rosamond-Willow Springs Traffic Impact Fee Program was created in 1993 by Kern County Board of Supervisors Resolution 93-731. The program's requirements are provided in Section 17.60.120 of the Kern County Code. Impact fees for nonresidential projects are assessed based on the number of average daily traffic (ADT) trips projected to be produced.

Kern County Airport Land Use Compatibility Plan (ALUCP)

The Kern County Airport Land Use Compatibility Plan establishes procedures and criteria to assist the County and affected incorporated cities in addressing compatibility issues between airports and surrounding land uses. The project is not located within a designated Airport Land Use Compatibility zone.

4.15.4 Impacts and Mitigation Measures

Methodology

This section describes the methods used to evaluate the project's potential impacts and the thresholds used to determine whether an impact would be significant. Information in this section is based on the *Transportation Impact Study* (**Appendix K1**), *Construction Vehicle Miles Traveled Study* (**Appendix K2**), and the *Construction Level of Service Study* (**Appendix K3**).

Project Trip Generation, Distribution, and Assignment

Construction

Project Trip Generation

Construction of the project and the electric tie-lines and interconnection by SCE would overlap. Construction activities are anticipated to begin in 2027 and last for up to approximately two years, with peak construction activity occurring in 2028. Construction would generally occur from Monday through Friday during daytime hours, between 6:00 a.m. and 5:00 p.m.; however, additional workdays or extended hours may be required to meet project schedule commitments. Traffic generated during the construction phase would include personnel vehicles and heavy trucks. The following worker estimates account for construction of all components of the project, including the tie-lines and interconnection.

- Peak construction activity:
  - 220 daily workers (200 onsite; 20 SCE)
  - 60 daily deliveries (55 onsite; 5 SCE)
- Average construction activity:
  - 114 daily workers (100 onsite; 14 SCE)
  - 35 daily deliveries (34 onsite; 1 SCE)

The construction worker estimates were used to generate daily and AM and PM peak hour peak and average construction trip estimates using the following assumptions:

- All workers show up to the site before 6:00 AM, which is when construction work begins.
- All workers leave the site after 5:00 PM, which is when construction work ends.
- Deliveries are being made uniformly throughout the day while construction operations are ongoing.

The trip generation estimates during the peak construction period for the project are summarized in **Table 4.15-1**, *Peak Day Construction Trip Generation Estimates*, below. As shown below, the peak day of construction for the project would generate approximately 560 daily trips, 12 AM peak hour trips, and 220 PM peak hour trips.

TABLE 4.15-1: PEAK DAY CONSTRUCTION TRIP GENERATION ESTIMATES

Trip Type	Daily Quantity	Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Workers[1]	220	440	-	-	-	-	220	220
Deliveries[2]	60	120	6	6	12	-	-	-
Total	**280**	**560**	**6**	**6**	**12**	**-**	**220**	**220**

Notes:

[1] All workers are assumed to arrive prior to the AM peak hour and depart during the PM peak hour.

[2] Deliveries are anticipated to occur uniformly throughout the day during construction operations.

Source: Construction Level of Service Study (**Appendix K3**).

Trip Distribution

Trip distribution refers to the directions of approach and departure that vehicles would use to travel to and from the project site. Construction trip distribution is based on the origins and destinations of the construction workers and deliveries, which are currently unknown. Therefore, construction trip distribution for the project was assumed to closely resemble the construction trip distributions of adjacent developments.

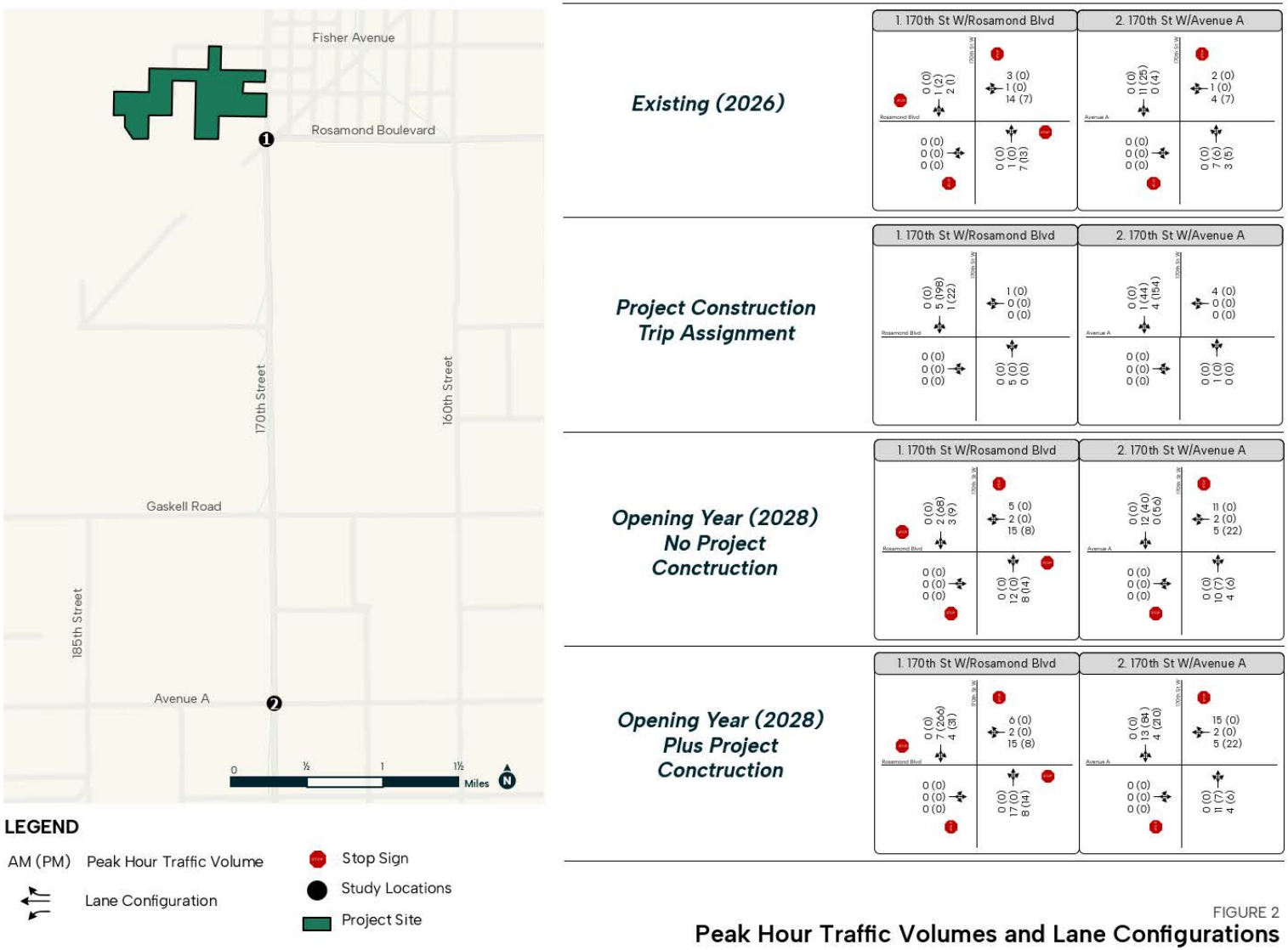
Streetlight is a big data source that aggregates metadata from connected vehicles. It can be used in transportation planning applications to estimate the number of vehicles on roadways and to identify the origins and destinations of those vehicles. Streetlight data was evaluated for the study area on a typical Tuesday through Thursday in the summer of 2016, which overlapped with construction activities for adjacent developments. Existing roadway network characteristics, local knowledge of the study area, and professional judgement were used to refine the project construction trip distribution.

As provided in the LOS Assessment (**Appendix K3**), approximately 70% of trips would access the project site from Avenue A and 170th Street West, 20% from 170th Street West, and 10% from Rosamond Boulevard and 170th Street West.

Trip Assignment

Project trip assignment refers to the specific route and roadway segments vehicles would take to access and leave the project site. The peak construction AM and PM peak hour trip generation estimates shown in **Table 4.15-1** were applied to the trip distribution percentages described above to estimate the AM and PM peak hour construction trip assignments, which are shown in **Figure 4.15-1**, *Peak Hour Traffic Volumes and Lane Configurations*.

Figure 4.15-1: Peak Hour Traffic Volumes and Lane Configurations



Source: Construction Level of Service Study (**Appendix K3**)

Level of Service

Intersection operating conditions were evaluated using the Transportation Research Board (TRB) *Highway Capacity Manual* (HCM) *7th Edition* methodology. The HCM 7th Edition methodology for signalized, All Way Stop Controlled (AWSC), and roundabout controlled intersections estimates the average control delay for vehicles at studied intersections. For Side Street Stop Controlled (SSSC) and Two-Way Stop Controlled (TWSC) intersections, HCM 7th Edition methodology reports the worst lane delay. After the quantitative delay estimates are complete, the methodology assigns a qualitative letter grade that represents the operations of the intersection. These grades range from LOS A (minimal delay) to LOS F (excessive congestion). LOS E represents at-capacity operations. Descriptions of the LOS letter grades for signalized and unsignalized intersections are provided in **Table 4.15-2**, *Intersection LOS Grades*, below.

The latest version of the Synchro analysis software, Synchro 12, was used to determine the LOS for all study intersections.

TABLE 4.15-2: INTERSECTION LOS GRADES

Level of Service (LOS)	Description	Signalized, AWSC, and Roundabout Delay (seconds)	SSSC (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length	≤10.0	≤10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths	> 10.0 to 20.0	> 10.0 to 15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0	> 15.0 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0	> 25.0 to 35.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0	> 35.0 to 50.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80.0	> 50.0

Key: AWSC = All Way Stop Controlled; SSSC = Side Street Stop Controlled

Source: Construction Level of Service Study (**Appendix K3**)

To determine LOS at the analyzed intersections, the amount of construction traffic entering and exiting the project was estimated, and the direction construction trips would travel to approach and depart the site was projected; then construction trips were assigned to specific intersection turning movements. Traffic counts were collected in May 2026 during AM and PM peak periods at the intersections to analyze existing conditions and compared to the opening year with and without the project. As shown in **Table 4.15-2**, *Existing Conditions - Intersection LOS*, the two study area intersections currently operate at an acceptable LOS (that is, LOS D or better) during AM and PM peak hours under existing conditions.

TABLE 4.15-3: EXISTING CONDITIONS - INTERSECTION LOS

ID	Intersection	Control	LOS at AM Peak Hour	LOS at PM Peak Hour
1	170th Street West and Rosamond Boulevard	AWSC	A	A
2	170th Street West and Avenue A	SSSC	A	A

Key: AWSC= all-way stop-controlled intersection and SSSC= side-street stop-controlled intersection
Source: Construction Level of Service Study (**Appendix K3**)

To determine the Opening Year (2028) Forecasts, a growth rate of 2% per year was applied to the existing traffic volumes and considered additional traffic volumes associated with construction of adjacent land use development projects. Specifically, construction traffic volumes associated with the Keyhole Wind Facility and Rosamond Battery Energy Storage Facility were included in the Opening Year forecasts.

The *Keyhole Wind Project EIR Addendum* (2022) states the project would generate up to 166 daily, 72 AM peak hour, and 72 PM peak hour construction trips. These peak hour estimates account for 60 worker commute trips and 12 delivery trips in both peak hours. Assuming similar construction operations as the project, all Keyhole workers would be on site before the AM peak hour of adjacent street traffic occurs. Therefore, the Keyhole AM peak hour trips were updated to only account for delivery trips.

The Rosamond project is on a 38-acre site (less than one-third the size of the project) and is located 2.8 miles southeast of the project on Avenue A. No trip generation data has been published for the Rosamond project; however, assuming similar peak construction activity requirements as the project, it is assumed to generate 178 daily, 4 AM peak hour, and 70 PM peak hour construction trips.

Opening Year (2028) Plus Project Construction forecasts consist of the Opening Year (2028) No Project Construction forecasts plus the project construction trip assignment.

Vehicle Miles Traveled

The County has not yet adopted transportation guidelines for estimating VMT and VMT-related impacts. In addition, the project does not involve a land use project addressed in the *CEQA Guidelines* (for example, a residential or office project) and does not involve a transportation project. Therefore, the analysis of VMT-related impacts relied on qualitative measures and utilized additional guidance provided in the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (LCI 2018) to inform the analysis of impacts regarding VMT.

Pursuant to the Technical Advisory, projects that generate or attract fewer than 110 ADT generally are assumed to create an insignificant VMT impact and do not warrant in-depth evaluation. As described further below, the project operation and maintenance is expected to generate up to 18 daily trips, which is far below the threshold of 110 ADT; therefore, the operation and maintenance activities associated with the project are screened out from the requirement to conduct an in-depth VMT analysis. However, project construction daily trips exceed the minimum VMT screening criteria, and a VMT analysis is provided to determine if construction-related activities would result in a significant transportation impact under CEQA.

The construction VMT analysis was conducted by comparing project-generated VMT to the average VMT per trip in the study area. The average VMT per trip in the study area utilizes the methodology documented in the *Traffic Investigation for Proposed Keyhole Wind Facility in Rosamond, CA* (Ruettgers & Schuler Civil Engineers 2022). The average VMT per trip for the study area, as referenced in the Keyhole VMT

analysis, is based on VMT data from Kern COG. 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 greater Kern County area, as well as travel patterns throughout the region, Kern COG data shows an average VMT per trip of 43.2 miles. Utilizing this average VMT per trip is applicable for use in the project's construction VMT analysis because the Keyhole project is located directly west of the project and, therefore, is representative of travel patterns in the study area.

Project-generated construction VMT is estimated by the number of worker trips and trip distances, while tracking specific trip purposes. Trip purposes could include home-based-work, home-based-school, home-based-other, or non-home-based. For the project construction VMT analysis, project-generated VMT represents the home-based-work VMT associated with construction worker commute trips and distances. Trip lengths associated with the project construction worker commute trips were estimated based on the following worker distribution assumptions, which are consistent with assumptions used in the Keyhole VMT analysis:

- 50% of construction workers will be from the local area (Lancaster, Rosamond, and Mojave)
- 30% of construction workers will relocate to the local area for the duration of Project construction activity
- 20% of construction personnel will be from the non-local area (Bakersfield and Tehachapi)

The proportion of construction workers who live in each of the above jurisdictions was assumed to be proportional to the total number of workers who live in each jurisdiction. Census data from 2023 was referenced to determine the employed population in each jurisdiction and the most densely populated area in each jurisdiction. Average trip lengths from those areas were estimated using Google Maps and assumed to represent the construction worker commute trip lengths from those jurisdictions.

The number of one-way construction commute trips was multiplied by the construction worker distribution to estimate the number of commute trips originating from each jurisdiction. These commute trips were multiplied by the corresponding average trip lengths to estimate the total VMT associated with construction workers traveling from each jurisdiction.

Finally, given the similarities between activities that would occur during the construction and the decommissioning phases of the project, the analysis assumed that travel routes, trip generation rates, and VMT during decommissioning activities would be similar to those generated during the construction phase.

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;

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); or

d. Result in inadequate emergency access

Project Impacts

Impact 4.15-1: The project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

The project is located within an area that is subject to the KCGP and the Willow Springs Specific Plan, which have a desired LOS criteria for County roadways of LOS D or better. To determine general plan consistency relating to intersection and roadway LOS, the TIS provided an analysis of the operations of the existing and future street system with the addition of traffic associated with the project. The operational analysis includes LOS analysis for peak-hour intersection and daily roadway operations, as well as queueing and signal warrant evaluation.

Construction

An analysis was performed to determine the LOS of the intersections during the construction phase of the project. As discussed under *Methodology*, the majority of construction vehicle trips to and from the project site would be associated with construction workers. The peak construction workforce would consist of up to 220 daily trips, and the average construction workforce would include 114 daily trips. The peak construction delivery trip estimate is 60, while the average is 35. These estimates include the construction of the BESS facility, tie-lines, and interconnection to the Whirlwind Substation.

As shown in **Table 4.15-4,** *Intersection LOS with and without Project Construction*, construction of the project in the opening year of 2028 would cause operations at the intersection of 170th Street West and Avenue A to fall below acceptable standards during the PM peak hour, when construction workers are departing the site. However, implementation of **MM 4.15-1** would require preparation and implementation of a construction Traffic Control Plan to ensure adequate public notification of construction activities, maintenance of traffic operations, and safe movement of oversized loads. Additionally, **MM 4.15-1** would specify the requirements associated with temporarily converting the intersection of 170th Street West and Avenue A from a two-way stop control to an all-way stop control during the AM construction worker commute periods. As shown in **Table 4.15-4**, converting the intersection to an all-way stop control would ensure that it operates at acceptable levels. Accordingly, construction of the project would be consistent with the KCGP and Willow Springs Specific Plan, and thus would not cause a significant impact.

TABLE 4.15-4: INTERSECTION LOS WITH AND WITHOUT PROJECT CONSTRUCTION

ID	Intersection	Control	Peak Hour	2026 LOS/Delay	2028 No Project Construction LOS/Delay	2028 Plus Project Construction LOS/Delay	2028 Plus Project Construction Improvements[1]
1	170th Street West and Rosamond Boulevard	AWSD	AM	A / 6.9	A / 7.0	A / 7.1	—
			PM	A / 6.7	A / 7.7	B / 14.1	—
2	170th Street West and Avenue A	SSSC	AM	A / 8.7 (WBLR)	A / 8.6 (WBLR)	A / 8.7 (WBLR)	A / 7.0
			PM	A / 8.9 (WBLR)	B / 11.7 (WBLR)	**E / 38.8 (WBLR)**	C / 15.1

Notes:

[1] Intersection 2 is analyzed as an AWSC intersection under the 2028 Plus Project Construction Improvements scenario to present the LOS once **MM 4.15-1** is implemented.

Bold represents an intersection that operates below acceptable standards.

Key: AWSC = All Way Stop Controlled; SSSC = Side Street Stop Controlled; WBLR = Westbound Left-turning Road

Source: Construction Level of Service Study (**Appendix K3**).

Operation and Maintenance

While the project would be operated remotely, some staff would be needed on-site during routine operations. Approximately two permanent full-time employees would be needed for initial site operations to perform inspections, light maintenance, compliance management activities, and administrative management of the site. Once all three BESS areas are constructed, on-site staffing needs could increase to approximately six full-time employees for routine operations. Trips associated with routine operation and maintenance would generate a maximum of 18 trips daily (six trips in the AM, up to six trips midday/lunch, and six trips in the PM). The operation and maintenance phase of the project would have a nominal number of operational trips and is not expected to impact the study area roadway network. The County's Standards for Traffic Engineering (Kern County n.d.) require that an analysis be conducted at intersections where a project would generate 50 or more peak hour trips. Therefore, an analysis of LOS conditions for project operation and maintenance was not required, and the impact would be less than significant.

Decommissioning

Near the end of the project's anticipated operational life of up to 35 years, the project proponents would determine whether the project should be decommissioned and deconstructed or if it would seek an extension of its operation and the appropriate permitting pathways. Traffic volumes within the study area cannot be projected that far in the future without speculation. Further, at least certain existing roadway and intersection conditions would likely change before the end of the 35-year operational period. Therefore, an evaluation of impacts at this time would be too speculative to be meaningful (CEQA *Guidelines* Section 15145).

As discussed in **Chapter 3**, *Project Description*, a decommissioning plan would be developed as required by local codes and is anticipated to be part of the building permit review. The decommissioning plan would adhere to the requirements of the appropriate governing authorities as well as all applicable local, state, and federal requirements and BMPs. The decommissioning plan would ensure that the project decommissioning

would not conflict with any applicable plan, policy, standard, or ordinance regarding the circulation systems. Therefore, impacts would be less than significant.

Transit, Bicycle, and Pedestrian Facilities

There are no dedicated pedestrian or bicycle facilities in the immediate vicinity of the project site or along the surrounding roadways. Although the Kern Transit Route 250 (California City–Lancaster Route) provides intercity transit options to Rosamond, according to the Kern COG Kern Region Active Transportation Plan, there are zero daily bicycle commuters in Rosamond and only one percent of residents commute by walking. The project is not located along an existing bus route, and few bus stops exist on the roadways likely to be used during construction and operation. The project would not prohibit Kern COG from improving mobility, accessibility, reliability, and efficiency of the regional transportation system, or any of the other core goals of the 2022 RTP/SCS. Additionally, due to the rural nature of the project area, bicycle and pedestrian infrastructure is limited, and project construction and operation would not prevent use of existing or planned bike or pedestrian facilities. Therefore, no impact would occur.

Vacation of Public Access Easements

The project involves a request for approval of non-summary vacations of public access easements for future road reservations within the project site. The purpose of the request is to accommodate onsite equipment and road layout efficiencies. As requested, the easement vacations would not eliminate any legal access for any property or persons in the area.

The project would comply with Kern County General Plan Circulation Section 2.3.6 Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, and Policies 1 through 14 related to the maintenance and coordination of proposed vacations. The proposed vacations would not restrict the traveling public or neighboring property owners' access to areas outside the project boundary. As such, impacts related to the approval of vacation of easements would be less than significant.

SCE Whirlwind Substation Upgrades

The project includes two 220-kilovolt (kV) overhead tie-lines to the SCE Whirlwind Substation on the adjacent parcels immediately south of the project site. SCE's work activities outside of the SCE Whirlwind Substation, including tie-line access clearing, installation of telecommunications lines, installation of tie-line support poles or towers, stringing of overhead conductors, and operation and maintenance of the tie-lines to the Point of Change of Ownership (POCO), would disturb all land within a 100-foot-wide corridor centered on each of the off-site tie-line alignments. Within the existing SCE Whirlwind Substation, each tie-line would require the installation of facilities for a new 220-kV switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3.0**, *Project Description*.

Trip generation to support SCE's upgrades to the Whirlwind Substation was included in the analysis conducted for the project and is included in the discussion of project impacts previously described above. Temporary construction activities would adhere to all federal and state regulations related to construction along active roadways, and adopted best management practices. Once operational, there would be no additional trips associated with the operation and maintenance of SCE interconnection facilities at the Whirlwind Substation. Construction and operation associated with the SCE Whirlwind Substation improvements would not conflict with a program, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. No impact would occur.

Mitigation Measures

Implementation of **MM 4.15-1** would be required.

MM 4.15-1: Prior to the issuance of grading 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:

   1. Timing of deliveries of heavy equipment and building materials during off-peak hours to the extent feasible;
   2. Review of transport routes to determine how turns on existing roads would be accomplished and identifying intersections at which use of a flag person would be required to assist large trucks in making unobstructed turns;
   3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
   4. Establish procedures for coordinating with local emergency response agencies to ensure dissemination of information regarding emergency response vehicle routes affected by construction activities;
   5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
   6. Maintaining access to adjacent property;
   7. Encourage carpooling among workers to reduce worker commute trips entering and exiting the study area; and
   8. 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.
   9. Temporarily convert the intersection of 170th Street and Avenue A from a two-way stop control to an all-way stop control during the AM and PM construction worker commute periods.

b. Obtain all necessary encroachment permits for work within the road right-of-way or use of oversized/overweight vehicles that will utilize County-maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Natural Resources Department and the Kern County Public Works Department-Development Review.

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 Works Department-Development Review and the Kern County Planning and Natural Resources Department.

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 electronic format. The County, in consultation with the project proponent/operator's engineer, shall determine the extent of remediation required, if any.

Level of Significance

Impacts would be less than significant.

Impact 4.15-2: The project would conflict with or be inconsistent with *CEQA Guidelines* Section 15064.3, subdivision (b).

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 shift the focus from driver delay to reduction of GHG emissions, creation of multimodal networks, and promotion of a mix of land uses. 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.

Construction

As previously described under **Section 4.15.4**, *Methodology*, the Construction Vehicle Miles Traveled Study prepared for the project (**Appendix K2**) provided a qualitative analysis of construction-related VMT impacts that compares the project VMT to baseline VMT within the project study area. Based on household and employment populations in the greater Kern County area, as well as travel patterns throughout the region, Kern COG data shows an average VMT per trip of 43.2 miles in the project study area.

It is anticipated that up to 50 percent of the construction personnel would be hired from the local population, which is considered to be the cities and communities of Rosamond, Lancaster, and Mojave. It is anticipated that approximately 30 percent of personnel would relocate temporarily to one of these population centers for the duration of construction. The remaining 20 percent or more of the construction personnel would be considered non-local and are anticipated to come from Bakersfield and other areas outside of Tehachapi. The distribution split was determined based on a U.S. Census Bureau mapping tool that uses federal and state administrative records to show information about where workers live, work, and commute between their homes and places of employment.

The average trip lengths of construction workers commuting from each jurisdiction to the project site and the commute VMT are illustrated in **Table 4.15-5**, *Construction Worker Distribution, Average Trip Lengths, and Commute VMT*. The total project commute VMT was summed and normalized by the average number of one-way construction commute trips (220). The average VMT per construction commute trip was determined to be approximately 36.8 miles per trip.

The average VMT per construction commute trip is assumed to represent the average commute VMT per trip for all construction activities associated with the project. The average VMT per construction commute trip of 36.8 miles is less than the average VMT per trip in the study area of 43.2 miles per trip. Therefore, project construction activities would not significantly increase VMT in the region, and thus construction VMT-related impacts would be less than significant.

TABLE 4.15-5: CONSTRUCTION WORKER DISTRIBUTION, AVERAGE TRIP LENGTHS, AND COMMUTE VMT

Jurisdiction	Total Employed Population in Jurisdiction	Project Construction Worker Distribution	Average Trip Lengths from Jurisdiction (Miles)	No. of One-Way Construction Commute Trips	Commute VMT (Miles)
Lancaster	67,061	71.5%	28.1	157	4,411.7
Rosamond	6,701	7.1%	15.0	16	240.0
Mojave	1,335	1.4%	29.8	3	89.4
LOCAL AREA SUBTOTAL	***75,079***	***80%***	—	—	—
Bakersfield	162,799	19.5%	77.3	43	3,323.9
Tehachapi	3,842	0.5%	32.6	1	32.6
NON-LOCAL AREA SUBTOTAL	***166,641***	***20%***	—	—	—
TOTAL	**241,720**	**100%**	**36.8**[1]	**220**	**8,097.6**

Notes: The total project commute VMT was summed and normalized by the average number of one-way construction commute trips.
Key: VMT = Vehicle Miles Traveled
Source: Construction Vehicle Miles Traveled Study (**Appendix K2**).

Operation and Maintenance

As previously described, the Technical Advisory includes screening criteria that allow agencies to identify projects that may result in a less-than-significant impact without preparing a detailed VMT analysis. Under the Technical Advisory, projects generating fewer than 110 vehicle trips per day are assumed to have a less-than-significant transportation impact.

As detailed in **Chapter 3**, *Project Description*, operation of the project would require up to six full-time employees for routine inspections, maintenance, and administrative activities. Operation and maintenance would generate a maximum of 18 trips daily (six trips in the AM, up to six trips midday/lunch, and six trips in the PM). Because the project would not generate daily trips that exceed the 110 daily-trip screening threshold, operation-related trips qualify for screening under the Technical Advisory. Accordingly, a detailed VMT analysis is not required, and VMT-related impacts associated with project operation would be less than significant.

Decommissioning
The decommissioning phase is conservatively anticipated to generate a similar number of trips as during project construction; therefore, impacts would be less than significant.

SCE Whirlwind Substation Upgrades
VMT from worker trips associated with the SCE Whirlwind Substation upgrades are included in the construction VMT analysis above, which determined an average VMT construction commute trip length of 38.6 miles. This trip length is below the average VMT in the study area of 43.2 miles per trip. Therefore, construction VMT-related impacts would be less than significant. Once operational, the Whirlwind Substation upgrades and tie-lines would be unmanned and no operational trips would be required. Therefore, no VMT-related impact associated with the operation of the SCE Whirlwind Substation improvements would occur.

Mitigation Measures
No mitigation would be required.

Level of Significance
Impacts would be less than significant.

Impact 4.15-3: The project would substantially increase hazards due to a geometric design feature (such as sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

The project would not involve construction of a new public roadway, rerouting of an existing roadway, or physical alterations to an existing public intersection. However, the project would construct new access driveways connecting to public roads and internal roadways within the developed portions of the project site.

Prior to constructing the access driveways, the project proponent would be required to obtain an Encroachment Permit from the Kern County Public Works Department Engineering, Surveying, and Permit Service Department (Collectively "Public Works"). As part of the permit review, Kern County Public Works Department would review the proposed driveway locations and designs for compliance with applicable safety design standards outlined in the Kern County Development Standards. Compliance with Encroachment Permit requirements and applicable Kern County Public Works Development Standards would ensure that project access and onsite roadways would not introduce any unusual traffic hazards or unsafe conditions, and impacts would be less than significant.

During construction and periodic maintenance activities, the project would require the delivery of heavy equipment and BESS components via local and regional roadways, some of which may require oversize vehicles or loads. The use of oversize vehicles or loads has the potential to create temporary traffic hazards by limiting motorist views and reducing available roadway space. The implementation of **MM 4.15-1** requires the preparation and implementation of a construction Traffic Control Plan to ensure the safe use of oversized vehicles or loads, maintain traffic operations, and provide advanced notification of construction activities. The measure would also require the advanced identification of anticipated construction delivery times and vehicle travel routes to minimize conflicts with peak-hour traffic and avoid potentially hazardous travel routes. In addition, all oversize vehicle loads would be required to comply with applicable California Vehicle Code sections and California Streets and Highways Codes governing vehicle

size, weight, load, and roadway use. As required under existing regulations, oversized vehicle loads would also require coordination with Caltrans, Kern County, and California Highway Patrol, including the use of escorts, as determined necessary in applicable oversize load permits.

The project would not include roadway designs or operational features that would create hazardous conditions, such as dangerous intersections, sharp curves, or incompatible roadway uses. Although the transport of heavy equipment and oversized loads during construction may impair motorists' views, **MM 4.15-1** would minimize these potential hazards through traffic control measures outlined in a construction Traffic Control Plan. Therefore, impacts related to transportation hazards would be less than significant.

SCE Whirlwind Substation Upgrades

No new public roadways or access driveways would be required with the upgrades and tie-lines associated with the existing SCE Whirlwind Substation. Construction activities have the potential to increase hazards due to oversized vehicles limiting motorist views on roadways; however, SCE would adhere to all federal and state requirements, and implement best management practices to minimize potential transportation hazards during construction. Therefore, impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.15-1** would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.15-4: The project would result in inadequate emergency access.

Construction and Decommissioning

Project construction and decommissioning activities would not require closures of public roads. However, oversized vehicles or transport loads could temporarily interfere with emergency response or emergency evacuation procedures by causing intermittent delays associated with reduced roadway capacity, sudden stops, or vehicle queuing.

The project would be required to comply with all applicable emergency access requirements established by KCFD, including maintaining emergency vehicle access at all times. In addition, **MM 4.15-1** would require preparation and implementation of a construction Traffic Control Plan that addresses emergency vehicle access, oversized vehicles or loads, traffic control measures, and coordination with applicable agencies. Compliance with these requirements and **MM 4.15-1** would ensure that emergency access is maintained. Therefore, impacts related to emergency access and emergency response during construction and decommissioning would be less than significant.

Operation and Maintenance

As described in **Chapter 3**, *Project Description*, the project driveways and internal roadways would be designed and operated to comply with applicable KCFD requirements, such as turning-radius and access requirements for emergency vehicles. Compliance with the Kern County Fire Code would be verified through the County's plan check and approval process, which would ensure that adequate emergency access is provided throughout the project site. In addition, development of the project site would not alter

designated emergency response routes or plans established by the County. Therefore, impacts associated with operational emergency access would be less than significant.

SCE Whirlwind Substation Upgrades

The SCE tie-line work areas would be accessed via the unpaved, approximately 18-foot-wide road extending west from Rosamond Boulevard and 170th Street West. Construction activities would not require closure of any public roadways. Although tie-line construction may temporarily prevent passage where the tie-lines cross the unpaved access road extending west from Rosamond Boulevard, any such restrictions would be short-term, localized, and within SCE-owned property. Following construction, access to the SCE interconnection facilities would be provided through the existing Whirlwind Substation, which has an existing approximately 30-foot-wide engineered concrete driveway. SCE would adhere to all applicable federal and state requirements, and implement best management practices to minimize potential impacts associated with emergency access. Therefore, impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.15-1** would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

4.15.5 Cumulative Setting, Impacts, and Mitigation Measures

As presented in **Chapter 3**, *Project Description*, five projects are included in the cumulative impact analysis. Cumulative transportation impacts could occur if multiple projects within the same geographic location have overlapping construction schedules, resulting in increased traffic volumes, hazardous roadway conditions, or inadequate emergency access. Because transportation impacts are generally localized, the geographic scope for cumulative transportation analysis is limited to a three-mile radius from the project site. Within this area, there are three projects that have the potential to contribute to a cumulative transportation impact: the Keyhole Wind Energy Project, Rosamond Battery Energy Storage Project, and Willow Rock Energy Storage Center (WRESC). Although the WRESC site is located approximately eight miles from the project site, a portion of its 19-mile, 230-kilovolt (kV) generation-tie (gen-tie) line extends to the SCE Whirlwind Substation south of the project site. Therefore, only the portion of the WRESC gen-tie line and associated construction activities occurring within three miles of the project site are considered in this cumulative transportation analysis.

Construction traffic associated with the WRESC project would be concentrated near the project site and along roadway segments providing access between the regional transportation network and the project site. Accordingly, the WRESC transportation analysis evaluated construction traffic on SR 14, Dawn Road, Sierra Highway, Backus Road, Mojave Tropico Road, and associated select intersections. Although construction of the gen-tie line would occur along additional roadways, the transportation impact analysis did not separately distribute construction trips for these activities. Instead, construction trips were evaluated as part of the overall project and were distributed between local non-specialized workers, specialized workers, water trucks, and haul trucks. As a result, project-specific trip distribution and generation data for gen-tie installations are not available.

According to the California Energy Commission Final Decision, construction of the WRESC gen-tie line and associated access road is expected to occur over approximately 16 months, from November 2027 through February 2029 (CEC 2029). The Final Decision further indicates that installation activities at each pole location generally require one or two days of construction. Because a detailed construction schedule for individual gen-tie segments is not available, this analysis assumes that construction would progress incrementally along the gen-tie alignment from the WRESC site to the Whirlwind Substation. Under this assumption, combined with construction advances at a consistent rate, work on the final three miles of the alignment nearest the SCE Whirlwind Substation would occur between December 2028 and February 2029, with the final connection to the substation occurring in February 2029. Based on the proposed construction schedules, construction of the WRESC gen-tie line nearest the project site is not expected to overlap with the construction of the proposed project. Little to no vehicle trips associated with the gen-tie line are anticipated during operations. Therefore, the WRESC gen-tie line is not anticipated to contribute to a cumulative transportation impact and is not considered further in the cumulative transportation impact analysis.

Consistency with Programs, Plans, and Policies

Several energy- and utility-related projects are located within the cumulative transportation impact geographic scope, including the Keyhole Wind Energy Project and Rosamond Battery Energy Storage project, and are anticipated to utilize the same roadway network as the project. As discussed in **Section 4.15.4**, *Methodology*, traffic generated by these projects was included in the opening year (2028) plus project construction forecasts.

The analysis determined that cumulative project construction would cause operations at the intersection of 170th Street West and Avenue A to fall below acceptable standards during the PM peak hour. Accordingly, the project would contribute to a potentially significant cumulative transportation impact. However, implementation of **MM 4.15-1** requires preparation and implementation of a construction Traffic Control Plan to maintain safe traffic operations, provide advance public notification of construction activities, and ensure safe and efficient movement of oversized loads. **MM 4.15-1** also requires the temporary conversion of the existing two-way stop-controlled intersection at 170th Street West to an all-way stop control during the AM and PM construction worker commute periods. With the implementation of this measure, the intersection would operate at acceptable levels during construction. Therefore, the project's contribution to cumulative transportation impacts would not be cumulatively considerable. Cumulative transportation impacts would therefore be less than significant.

Once operational, the project would generate a maximum of 18 trips daily, which is not expected to impact the study area roadway network. It is expected that the other projects would be unmanned or require limited operation and maintenance-related vehicle trips. The project's contribution to cumulative transportation impacts during operation and maintenance would not be cumulatively considerable. Cumulative transportation impacts would therefore be less than significant.

As described in Impact 4.15-1, it cannot be determined what other projects would be established, or what roadway conditions would be at the time of project decommissioning. Therefore, an analysis of cumulative impacts associated with decommissioning activities would be unduly speculative. A decommissioning plan would be developed as required by local codes and is anticipated to be part of the building permit review. The decommissioning plan would ensure that the project decommissioning would not conflict with any applicable plan, policy, standard, or ordinance regarding the circulation systems.

Guidelines Section 15064.3(b) Consistency

Transportation impacts involving VMT are long-term and cumulative in nature because the objective of this consideration is to reduce total VMT as a way of reducing transportation sources of greenhouse gas emissions throughout a jurisdiction, region, or the state. Therefore, project construction and decommissioning VMT, combined with the temporary effects of other reasonably foreseeable projects, such as the Keyhole Wind project and Rosamond Battery Energy Storage project, would not result in permanent changes in VMT.

Project operations are estimated to generate minimal vehicle trips. It is reasonable to expect that because the project has a small and skilled workforce of up to 6 full-time employees, the project would not result in circumstances where VMT patterns of the area or region would be significantly affected. The same reasoning can be applied to the other proposed projects considered in this cumulative impact analysis. Furthermore, other reasonably foreseeable projects included in the analysis of cumulative impacts would be subject to their own transportation analysis and review by the County and Caltrans, at which time project-specific VMT would be analyzed and, if required, would be subject to project-specific mitigation measures to reduce VMT. Therefore, the project's contribution to cumulative impacts related to VMT would not be cumulatively considerable, and thus cumulative impacts would be less than significant.

Geometric Design Features/Emergency Access

Additional development in Kern County would likely require new public roadways and access points, and require the use of large, oversized vehicles on public roadways and highways. Site access and new roadways could introduce traffic hazards or unsafe conditions, while the use of oversized vehicles has the potential to create temporary traffic hazards by limiting motorist views and reducing available roadway space. These activities could also temporarily limit emergency vehicle access and emergency response procedures. However, prior to conducting such activities, each project would be required to obtain an Encroachment Permit from the Kern County Public Works Department. Additionally, each project requiring oversize vehicles would need to obtain applicable approvals and permits from Kern County and Caltrans.

The project would implement MM 4.15-1, which requires the implementation of a construction Traffic Control Plan and compliance with all applicable transportation safety requirements for oversized vehicles. Implementing MM 4.15-1 would minimize potential transportation hazards associated with project construction, and the project would not considerably contribute to a cumulative impact. Cumulative impacts related to transportation and traffic hazards would thus be less than significant.

SCE Whirlwind Substation Upgrades

Construction-related transportation impacts associated with the SCE Whirlwind Substation upgrades and tie-lines were evaluated as part of the project analysis and are discussed above. Once operational, the SCE interconnection facilities would be unmanned and would not generate operational vehicle trips. Additionally, no new access driveways or public roadways would be constructed. SCE would comply with all applicable federal and state requirements, and implement best management practices to minimize potential impacts associated with emergency access. As a result, the SCE Whirlwind Substation upgrades would not substantially contribute to cumulative traffic volumes, transportation hazards, or emergency access restrictions. Thus, cumulative transportation impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.15-1** would be required.

Level of Significance after Mitigation

Cumulative impacts would be less than significant.

Section 4.16

Tribal Cultural Resources

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Section 4.16
Tribal Cultural Resources

4.16.1 Introduction

This section of the Draft Environmental Impact Report (EIR) provides an assessment of potential impacts related to tribal cultural resources that could result from implementation of the project. The analysis in this section is based on the results included in the *Cultural Resources Phase I Investigation Report* (**Appendix D**) and the results of the Native American consultation conducted by Kern County (County) for compliance with the California Environmental Quality Act (CEQA) requirements prompted by Assembly Bill (AB) 52. Due to the culturally sensitive nature of the information in the cultural report, confidential information has been removed, and a non-confidential version of the technical report is included as **Appendix D** to this Draft EIR (pursuant to California Code of Regulations § 15120(d)).

4.16.2 Environmental Setting

Refer to **Section 4.5**, *Cultural Resources*, of this Draft EIR for additional information regarding the tribal cultural resources environmental setting, such as the ethnographic and prehistoric setting. The Survey Area for the discussion in this Tribal Cultural Resources section is defined as the area encompassing the project and tie-line corridors.

Existing Tribal Cultural Resources

Native American Correspondence, Assembly Bill 52

In accordance with Public Resources Code (PRC) Section 21080.3.1(d), a lead agency is required to provide formal notification of intended development projects to Native American tribes that have requested to be on the lead agency's list for receiving such notification. The formal notification is required to include a brief description of the project and its location, lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation regarding potential impacts to tribal cultural resources.

As part of the Phase I Cultural Resources Study, on February 12, 2024, a Sacred Lands File (SLF) search was requested from the California Native American Heritage Commission (NAHC) to determine if there are Native American cultural resources within or near the Survey Area. The NAHC responded on February 21, 2024, stating that the SLF search found no Native American cultural resources within or near the Survey Area. The NAHC also provided a list of Native American groups and individuals who may have knowledge of cultural resources in the Survey Area.

On October 8, 2025, Kern County staff sent AB 52 letters to the following Native American Tribes:

- Twenty-Nine Palms Band of Mission Indians
- Morongo Band of Mission Indians
- Tejon Indian Tribe

- Torres Martinez Desert Cahuilla Indians
- Yuhaaviatam of San Manuel Nation

As of July 31, 2026, two responses were received from Native American Tribes, including the Yuhaaviatam of San Manuel Nation (YSMN) and Tejon Indian Tribe.

The YSMN and County correspondence include the following:

- A response was received from the YSMN on October 21, 2025, in which the Tribe indicated that the project area is located within the Serrano ancestral territory; therefore, it is of interest to the tribe. The YSMN requested copies of the cultural report, geotechnical report, and project plans illustrating the depth of proposed disturbance. The tribe also stated that the requested documents and information would help the YSMN determine participating as a consulting party under CEQA; further indicating that if the documents cannot be provided within a 30-day response window, the tribe automatically elects to be a consulting party under CEQA.
- On June 2, 2026, the County replied to the Tribe and shared the Phase I Cultural Resources Report, Geotechnical Investigation Report, and the proposed project site plans.
- On June 2, 2026, the Tribe replied regarding receipt of the requested documents. They note that YSMN thinks there will be a high probability of encountering tribal cultural resources during project implementation. The Tribe also provided cultural resources and tribal cultural resources mitigation measures that they requested be included as part of the project and its permits or plans.

A response was received from the Tejon Indian Tribe on October 20, 2025, in which it was strongly recommended to treat the project location as highly culturally sensitive. The Tribe identified a substantial archaeological site near the project area. The Tejon Indian Tribe recommends: utilizing a Native American monitor for all ground-disturbing activities; conducting a survey prior to ground disturbance if possible; a Native American Monitor be present during an intensive pedestrian survey if a survey has not yet been completed; a Cultural Presentation be given to the construction crews before any ground disturbance; and that a curation agreement be in place for discoveries.

The County did not receive responses from the remaining tribes that were notified pursuant to AB 52 within the required 30-day period following receipt of the notification letter. In accordance with PRC Section 21080.3.1 (b), if a tribe does not request consultation in writing within 30 days of receiving formal notification, the lead agency may assume that the tribe has declined consultation on the project; therefore, the County has concluded that those tribes that did not respond within the 30-day timeframe have declined consultation for this project. Notwithstanding the conclusion of the AB 52 consultation period, the County will continue to provide previously notified tribes with any notices of availability for subsequent environmental documents and public hearing notices that may be issued in relation to this project in accordance with CEQA requirements.

4.16.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

Native American Historic Cultural Sites (California PRC, Section 5097 et. seq.)

PRC Section 5097.9 established the NAHC, the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. PRC Section 5097.98 specifies a protocol to be followed when the NAHC receives notification from a County coroner of a discovery of Native American human remains. The NAHC will notify the most likely descendant and, with landowner permission, the most likely descendant may inspect the site of discovery. Within 48 hours of being notified by the NAHC and provided access to the project area, the most likely descendant must provide their recommendations, which may include means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

Assembly Bill 52 and Related PRC Sections

California State Governor Edmund Gerry "Jerry" Brown, Jr. approved AB 52 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.

Under PRC Section 21074, (a) tribal cultural resources are:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for the inclusion in the CRHR, or;

(B) Included in a local register of historical resources as defined by subdivision (k) of Section 5020.1 (designated or recognized historically significant by a local government pursuant to local ordinances or resolution).

(2) 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

(b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

On July 30, 2016, the California Natural Resources Agency adopted the final text for the 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 a Mitigated Negative Declaration (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including 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.

California Native American Graves Protection and Repatriation Act of 2001

Codified in the California Health and Safety Code Sections 8010-8030, the California Native American Graves Protection and Repatriation Act (Cal NAGPRA) is consistent with the federal NAGPRA. Intended to "provide a seamless and consistent state policy to ensure that all California Indian human remains and cultural items be treated with dignity and respect," Cal NAGPRA also encourages and provides a mechanism for the return of remains and cultural items to lineal descendants. Section 8025 established a Repatriation Oversight Commission to oversee this process. Cal NAGPRA also provides a process for non-federally recognized tribes to file claims with agencies and museums for repatriation of human remains and cultural items.

California Health and Safety Code, Sections 7050 through 7053

California Health and Safety Code, Section 7050.5, declares that, in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbance must cease, and the County coroner must be notified. Sections 7052 and 7052.5 establish a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives or to dispose of as permitted by law. Section 7053 makes it a misdemeanor to arrest, attach, detain, or claim to detain any human remains for any debt or demand, or

upon any pretended lien or charge, or to fail to release any human remains, the personal effects, or any certificate or permit required under Division 102 (commencing with Section 102100) upon the delivery of authorization for the release signed by the next of kin or by any person entitled to the custody of the remains.

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to tribal cultural resources. The goals, policies, and implementation measures in the KCGP and the Willow Springs Specific Plan related to tribal cultural resources that are applicable to the project are provided below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for tribal cultural resources applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

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

1.10.3. – Archaeological, Paleontological, Cultural, and Historical Preservation

Policies

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 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 entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). 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 KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for tribal cultural resources applicable to the project are provided below. The Willow Springs Specific Plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated

in **Chapter 2**, *Introduction*, all goals, policies, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

4.16.4 Impacts and Mitigation Measures

Methodology

The project's potential impacts on tribal cultural resources have been evaluated using a variety of resources, including an SLF search conducted by the NAHC, tribal notification letters in accordance with AB 52, and cultural resources assessments. Using these aforementioned resources and professional judgment, potential impacts were analyzed according to the 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 do the following:

1) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, 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 PRC 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Project Impacts

Impact 4.16-1a: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k).

The SLF search conducted by the NAHC did not reveal the presence of tribal cultural resources within or near the project site. However, as described in **Section 4.16.1**, *Environmental Setting*, Native American outreach conducted for the project provided additional information regarding the potential for tribal cultural resources in the project vicinity. The YSMN stated that the project area is located within Serrano ancestral

territory and is believed to have a high potential for encountering tribal cultural resources. The YSMN provided recommendations for mitigation measures that were considered in the preparation of this Draft EIR. The Tejon Indian Tribe also identified the project area as highly culturally sensitive and identified a substantial archaeological site near the project area. The Tejon Indian Tribe provided recommended measures that were considered in the preparation of this Draft EIR.

Based on the results of tribal outreach, the project area is considered highly culturally sensitive. Therefore, construction-related ground-disturbing activities, including grading and excavation, have the potential to unearth previously undiscovered, intact tribal cultural materials, resulting in a potentially significant impact. To minimize potential impacts on tribal cultural resources, the project would implement **Mitigation Measures** (**MM) 4.5-1** through **MM 4.5-5** (see **Section 4.5**, *Cultural Resources*). These measures require that a Lead Archaeologist, in consultation with Native American monitor(s), provide Cultural Resource Sensitivity Training for all personnel involved in ground-disturbing activities. Native American Monitor(s) would be retained to monitor ground-disturbing activities. In addition, a Cultural Resources Monitoring and Treatment Plan and, if necessary, a Data Recovery Plan would be prepared by the Lead Archaeologist in consultation with the Native American Monitor(s) to address inadvertent discoveries that cannot be avoided or preserved in place. The mitigation measures further require that any discovered resources be protected in place where feasible or otherwise treated, removed, and curated. If buried human remains are unearthed during project activities, the project proponent would implement **MM 4.5-5**, which includes procedures for the identification, treatment, and recordation of human remains in consultation with the County Coroner, and as applicable, the Most Likely Descendant. With the implementation of **MM 4.5-1** through **MM 4.5-5**, impacts on tribal cultural resources would be minimized to less than significant.

SCE Whirlwind Substation Upgrades

The project includes two 220-kilovolt (kV) overhead tie-lines to the Southern California Edison (SCE) Whirlwind Substation located on the adjacent parcels to the south of the project site. SCE's work activities outside of its Whirlwind Substation, including tie-line access clearing, installing telecommunications lines and tie-line support poles or towers, stringing overhead conductors, and operating/maintaining tie-lines to the Point of Change of Ownership, would disturb all land within a 100-foot-wide corridor centered on each of the off-site tie-line alignments. Within the existing Whirlwind Substation, each tie-line would require the installation of facilities for a new 220-kV switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3.0**, *Project Description*.

While most ground-disturbing activities associated with the SCE Whirlwind Substation upgrades would primarily occur within the boundaries of the existing substation site, clearing, grading, and excavation would occur within the two tie-line corridors. These activities have the potential to unearth previously undiscovered, intact tribal cultural materials. If such materials are found, a potentially significant impact may occur. SCE's standard best management practices include pre-construction cultural resources inventory and data recovery, if necessary, and minimization or avoidance of impacts to any potentially significant archaeological resources that might be discovered by implementing standard protocols that include ceasing all work within 50 feet of the discovery, protecting the discovery from further impacts, and contacting an SCE Cultural Resources Specialist. Therefore, impacts associated with the SCE Whirlwind Substation upgrades would be less than significant.

Mitigation Measures

Implementation of **MM 4.5-1** through **MM 4.5-5** (see **Section 4.5**, *Cultural Resources*) would be required.

Level of Significance

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 PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

As previously described, based on the results of tribal outreach, the project area is considered highly culturally sensitive. The project site is located within Serrano ancestral territory and is believed to have a high potential for encountering tribal cultural resources. Furthermore, the Tejon Indian Tribe identified the project area as highly culturally sensitive and identified the presence of a substantial archaeological site near the western portion of the project area.

While there may be a high probability of encountering potentially significant resources during ground-disturbing activities, no known precontact archaeological resources, no specific site, feature, place, cultural landscape, sacred place, or object meeting the definition of a tribal cultural resource pursuant to PRC Section 21074(a)(2) was identified within the project footprint based on available information.

Given the extent of ground-disturbing activities proposed, there is potential for unknown and/or buried resources to be encountered during project construction—resources that could be determined to be a significant tribal cultural resource by a Native American Tribe, including the YSMN and Tejon Indian Tribe. Should such resources be determined significant, the project could result in significant impacts related to the substantial adverse change in the significance of tribal cultural resources. The project proponent would be required to implement **MM 4.5-1** through **MM 4.5-5** (see **Section 4.5**, *Cultural Resources*) to avoid and/or mitigate potentially significant impacts on tribal cultural resources.

The implementation of **MM 4.5-3** requires ceasing ground-disturbing activities within 60 feet of an inadvertent archaeological discovery. The Lead Archaeologist, in consultation with the Native American Monitor(s), shall evaluate the significance of the resources and recommend appropriate treatment measures. If further treatment of the discovery is necessary, the Exclusion Area shall remain in place until the treatment is completed. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts on significant historical resources. 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. Furthermore, implementation of **MM 4.5-5** would require the project proponent to stop all work in the vicinity of any

human remains that are uncovered during project construction and implement the protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines.

SCE Whirlwind Substation Upgrades

Ground-disturbing activities associated with the SCE Whirlwind Substation upgrades would include grading and excavation. While these activities could result in the inadvertent discovery of previously unidentified tribal cultural resources, no tribal cultural resources have been identified within the substation area through record searches, field surveys, or consultation. SCE's standard best management practices include pre-construction cultural resources inventory and data recovery, if necessary, and minimization or avoidance of impacts to any potentially significant archaeological resources that might be discovered by implementing standard protocols that include ceasing all work within 50 feet of the discovery, protecting the discovery from further impacts, and contacting an SCE Cultural Resources Specialist. SCE is also subject to all state laws designed to protect tribal cultural resources, including Health and Safety Code section 7050.5. Therefore, impacts associated with the SCE Whirlwind Substation upgrades would be less than significant.

Mitigation Measures

Implementation of **MM 4.5-1** through **MM 4.5-5** (see **Section 4.5**, *Cultural Resources*) would be required.

Level of Significance

Impacts would be less than significant.

4.16.5 Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for evaluating cumulative impacts on tribal cultural resources focuses on the Antelope Valley, specifically emphasizing reasonably foreseeable projects proximate to the project site. The cumulative projects considered in this cumulative impact analysis are identified in **Table 3-4**, *Cumulative Projects List*, found in **Chapter 3**, *Project Description*. The Antelope Valley is appropriate because potential tribal cultural resources within this area are expected to be similar to those on or adjacent to the project site, given their proximity and similar environments, landforms, and location within the same Native American tribal territories. This geographic scope is sufficiently large to encompass any effects of the project that may combine with similar effects on tribal cultural resources caused by other past, current, and reasonably foreseeable future projects. It provides a reasonable context wherein cumulative actions could affect tribal cultural resources.

Cumulative impacts on tribal cultural resources in the Antelope Valley could occur if other projects, in conjunction with the project, have impacts on tribal cultural resources such that, when considered together, would be significant. Specifically, other projects could adversely impact tribal cultural resources should previously unknown, subsurface resources be unearthed during ground-disturbing activities. Similar to the project, cumulative projects would be required to comply with applicable State and local laws and regulations regarding the identification, treatment, and protection of tribal cultural resources. In addition, cumulative projects would likely implement measures requiring cultural resources sensitivity training, archaeological and Native American monitoring, immediate cessation of construction activity upon discovery of intact cultural resources, and the protection of any discovered cultural resources.

As previously described, the project would implement **MM 4.5-1** through **MM 4.5-5** to avoid or minimize potential impacts on tribal cultural resources. Accordingly, the project would not result in a cumulatively considerable contribution to a significant cumulative impact on tribal cultural resources, and cumulative impacts would be less than significant.

SCE Whirlwind Substation Upgrades

Construction activities associated with the SCE Whirlwind Substation upgrades would involve ground-disturbing activities, including clearing, grading, and excavation. These construction activities could unearth previously undiscovered tribal cultural resources, leading to a potentially significant impact. As such, SCE's standard best management practices include pre-construction cultural resources inventory and data recovery, if necessary, and minimization or avoidance of impacts to any potentially significant archaeological resources that might be discovered by implementing standard protocols that include ceasing all work within 50 feet of the discovery, protecting the discovery from further impacts, and contacting an SCE Cultural Resources Specialist. SCE is also subject to all state laws designed to protect tribal cultural resources. As discussed above, no tribal cultural resources have been identified in the Study Area, and the SCE Whirlwind Substation upgrades would not have a significant impact on tribal cultural resources. Therefore, the incremental effect of the SCE Whirlwind Substation upgrades is not cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects, and the effects of probable future projects. Cumulative impacts associated with the SCE Whirlwind Substation upgrades would be less than significant.

Mitigation Measures

Implementation of **MM 4.5-1** through **MM 4.5-5** (see **Section 4.5**, *Cultural Resources*) would be required.

Level of Significance

Cumulative impacts would be less than significant.

Section 4.17

Utilities and Service Systems

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Section 4.17
Utilities and Service Systems

4.17.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the affected environment, regulatory setting, and environmental impacts for utilities and service systems (water supply, stormwater control, wastewater, solid waste disposal, electricity, natural gas, and telecommunications). It also describes existing infrastructure and levels of service to evaluate whether improvements would be necessary to accommodate the project, and identifies mitigation measures to avoid, minimize, and/or mitigate those potential impacts, where applicable. The information and analysis in this section are based in part on the project-specific *Water Supply Assessment* (WSA) (**Appendix L**).

4.17.2 Environmental Setting

Geographically, Kern County is California's third-largest county, encompassing 8,161 square miles at the southern end of the Central Valley. Kern County is bounded by Kings, Tulare, and Inyo Counties to the north; Santa Barbara and San Luis Obispo Counties to the west; San Bernardino County and the Tehachapi Mountains and the Sierra Nevada Mountains to the east; and Los Angeles and Ventura Counties and the northern boundary of the Los Padres National Forest to the south.

The project site, including the Southern California Edison (SCE) Whirlwind Substation and tie-line corridors, is at the northern edge of the Antelope Valley in Kern County. The project site is situated approximately 8 miles west of the unincorporated community of Rosamond and approximately 17 miles south of the incorporated City of Tehachapi. As discussed further below, the project site, including the SCE Whirlwind Substation and tie-line corridors, is within the Antelope Valley Groundwater Basin (AVGB) and the boundaries of the Antelope Valley-East Kern Water Agency (AVEK) service area.

The project site does not contain wastewater infrastructure connections and would be served by the Kern County Public Works Department Waste and Recycling Division for solid waste. The project site is in an area where SCE provides electric power. There are no connections to, or service providers for, natural gas in the project vicinity.

Water Supply

There are typically three sources of water supply: (1) natural environmental sources, (2) human-made sources, and (3) reclamation. Environmental sources include rivers, lakes, streams, and groundwater stored in aquifers. Human-created 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 to ensure that there is no possibility of direct human consumption and/or contamination.

As discussed in the WSA (**Appendix L**), the proposed sources of the project water supply include one of the following, or a combination thereof. The following sections provide a discussion of each potential water supply source.

- Groundwater from the AVGB, sourced from new on-site wells via an Adjudicated Water Rights Agreement
- Groundwater from the Fremont Valley Groundwater Basin (FVGB), sourced from private wells or purchased from a local retailer, such as the Mojave Public Utility District (MPUD), and trucked to the project site
- State Water Project (SWP) water provided by AVEK through a local retailer, such as the Rosamond Community Services District (RCSD), and trucked to the project site

Groundwater Supply

Groundwater from the AVGB and/or FVGB is a potential source of project water supply, which would be sourced from wells or purchased from a local retailer and trucked to the project site. Below are discussions of these two groundwater basins and their suitability for providing project water supplies.

Antelope Valley Groundwater Basin

The project site, including the SCE Whirlwind Substation and tie-line corridors, is in the AVGB (DWR Basin No. 6-44) of the South Lahontan Hydrologic Region. The AVGB covers approximately 1,580 square miles in Los Angeles, Kern, and San Bernardino Counties. The groundwater basin is bound on the north by FVGB; on the east by ridges, buttes, and low hills forming a drainage divide; on the southwest by the San Andreas fault zone at the base of the San Gabriel Mountains; and on the northwest by the Garlock fault zone at the base of the Tehachapi Mountains.

Groundwater Basin Adjudication

Approximately 1,390 square miles, or 90 percent of the AVGB, has been adjudicated with an order to be managed by a watermaster since 2015. The AVGB was adjudicated to provide a framework to sustainably manage the basin to reverse groundwater level declines and reduce subsidence. The adjudicated area is divided into five subareas for management purposes: Central Antelope Valley Subarea, West Antelope Valley Subarea, South East Subarea, Willow Springs Subarea, and Rogers Lake Subarea. The project site is in the West Antelope Valley Subarea and is therefore bound by the Judgment stipulated for the basin.

Prior to the California 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. The SGMA now ensures that basins can be managed sustainably through local management plans. In October 2015, Governor Brown signed Assembly Bill (AB) 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 a court decision are subject to management by a court-approved watermaster.

Groundwater Management

The AVGB was adjudicated in December 2015 with the Superior Court of the State of California's approval of the AVGB Judgment (Judgment) and Physical Solution (Physical Solution). The Judgment determined

the AVGB to be in a state of overdraft, established respective water rights among groundwater producers, and ordered a rampdown of production to the native safe yield of 82,300 acre-feet per year (AFY) by 2022.

As part of the Judgment, the Antelope Valley Watermaster (Watermaster) was formed and appointed by the court to implement and enforce the Judgment. The Watermaster Board is charged with administering the adjudicated water rights and managing the groundwater resources within the area of adjudication.

The Physical Solution quantified the groundwater production reductions required within the adjudicated area to achieve the native safe yield of 82,300 AFY by 2022. Pursuant to the Judgment, producers allocated a portion of the native safe yield were assigned a corresponding final production right and required to reduce groundwater extraction from the pre-rampdown production amount to their assigned final production right. Production rights under the Judgment include overlying production rights (58,322 AFY), non-overlying production rights (12,345 AFY), federal reserved water right (7,600 AFY), small pumper class rights (3,806 AFY), and California production right (207 AFY). All parties other than the small pumper class, defined as using less than 3 AFY, are required to install meters on their wells for monitoring production and report production to the Watermaster. Parties that produce groundwater in excess of a production right incur a replacement obligation and are required to pay a replacement water assessment. New production can be approved by the Watermaster if the proposed use is reasonable and would not cause material injury; however, all new production is subject to a replacement obligation.

In addition to production rights, there are six other potential production categories identified in the Judgment, including pre-rampdown production, imported water return flows, stored water, other rights to produce groundwater, and additional production. Of particular relevance to the project is carryover, which is the unused portion of an annual production right that can be carried over to the next year for up to 10 years. At the end of 10 years, the producer may enter into a storage agreement with the Watermaster to store unproduced carryover water.

Along with the native safe yield, the Judgment established a total safe yield for the basin, which is the amount of groundwater that can be safely pumped over the long-term and is the sum of the native safe yield plus return flows from imported water. Because imported surface water provides groundwater recharge through return flows estimated at approximately 27,700 AFY, the total safe yield was set at 110,000 AFY.

Groundwater Production

Under the Judgment, the Watermaster has the responsibility of preparing annual reports. The annual reports provide an update on groundwater conditions in the Basin and Watermaster activities. The most recent annual report for the AVGB, *Antelope Valley Watermaster 2024 Annual Report*, presents groundwater production data for a five-year period between 2020 and 2024.

In 2024, reported groundwater production within the adjudicated portion of the AVGB totaled 63,563 AF (excluding the recovery of stored water), which is approximately 18,700 AF below the native safe yield of 82,300 AFY. All annual years are within the native safe yield, with a production of 72,665 AF in 2020, 79,575 AF in 2021, 73,411 AF in 2022, and 58,408 AF in 2023.

Groundwater Levels

The AVGB primarily receives recharge from perennial runoff from the surrounding mountains. Most recharge occurs at the foot of the higher elevation areas by percolation through the head of alluvial fan systems. Groundwater levels in the AVGB have historically ranged from an increase of 84 feet to a decrease of 66 feet from the mid-1970s to the late-1990s. The largest declines have been observed in more developed areas, such as Lancaster and Edwards Air Force Base. These areas have also experienced subsidence

because of groundwater pumping. Depth to groundwater in the vicinity of the project site has historically ranged from approximately 147 feet below ground surface to approximately 323 feet below ground surface between 1951 and 2005.

Historical groundwater level data for wells in the project area are limited. The closest actively monitored well with publicly available data is State Well Number 009N014W19L001S, which is located approximately 1.6 miles southwest of the project site. The well depth of this well is unknown. There are two other active wells located 2.5 miles and 3.2 miles from the project site with a well depth of 486 feet and 659 feet, respectively. There are several inactively monitored wells that are closer to the project site, but they have more limited and older datasets.

Fremont Valley Groundwater Basin

The FVGB is directly north of the AVGB and covers approximately 523 square miles. The FVGB is bound on the northwest by the El Paso Mountains and the Sierra Nevada; on the east by crystalline rocks of the Summit Range, Red Mountain, Castle Butte, Bissell Hills, and Rosamond Hills; and on the southwest by the AVGB. The Garlock and El Paso fault zones, which extend along the foothills of the Sierra Nevada and El Paso Mountains, restrict groundwater flow on the west and northwest sides of the basin.

Groundwater from the FVGB could come from a private well (or wells) or be purchased from a local retailer and trucked to the project site. The FVGB is not currently adjudicated or managed by a watermaster or other oversight entity.

Groundwater Management

The FVGB is designated by the California Department of Water Resources (DWR) as a low-priority basin with regard to the SGMA and is not in or projected to be in a state of overdraft. The low-priority ranking is based on the low population density, low number of private and public supply wells, and lack of irrigated agriculture, among other metrics. As such, the FVGB is not required to be managed by a groundwater sustainability agency (GSA) or prepare a groundwater sustainability plan at this time.

According to the estimates, groundwater production in the FVGB peaked in the 1970s at approximately 63,600 AF and decreased in subsequent years to approximately 15,300 AF in 1990 and approximately 6,400 AF in 2010. The decrease in groundwater production over time is due to imported SWP water becoming available in 1980 and a significant reduction in agriculture.

Groundwater Level

Long-term groundwater level data indicate that groundwater levels in the FVGB have declined over time, most significantly in the late 1950s through the 1970s due to drought and increased groundwater extractions. In the 1980s, groundwater levels continued to decline but at a much lower rate due to decreased pumping, imported water deliveries, and wetter climatic conditions. Current groundwater extraction in the FVGB is significantly lower than historical rates, and declines in groundwater levels have decreased significantly since that time.

Public Water Systems and Imported Surface Water

The project site, including the SCE Whirlwind Substation and tie-line corridors, is within the AVEK service area; however, no existing connection to AVEK water supplies is present on-site. While primarily a wholesale water agency, AVEK meets the California Water Code (CWC) Section 10912(c)(3) definition of a public water system because it has over 3,000 service connections and provides piped water for human consumption. Therefore, AVEK is evaluated as a potential source of water supply for the project. AVEK

serves an area of approximately 2,400 square miles in northern Los Angeles and eastern Kern Counties, as well as a small portion of Ventura County. AVEK also provides a small amount of water to areas outside of the Antelope Valley. Infrastructure includes four water treatment facilities, three groundwater banking and recovery facilities, 184 miles of pipeline, 11 pump stations, and 67 million gallons of treated storage.

AVEK is a wholesale water supplier of SWP water to the region, and is the third largest SWP contractor with an SWP entitlement of 144,844 AFY. SWP water is derived from rivers and reservoirs in Northern California and the Sacramento-San Joaquin River Delta and delivers water to 750,000 acres of farmland and 27 million people in Central and Southern California. The imported raw water comes from the Sacramento River/San Joaquin Delta and is treated at one of four treatment plants and is then delivered to local retail agencies, including the RCSD and MPUD.

Besides the AVEK, there are no other public water systems in the immediate vicinity of the project site. The only other public water system in proximity to the project site is the RCSD, which is approximately 11 miles east of the site. RCSD currently serves a population of approximately 17,711 people with 5,150 residential connections and 143 commercial connections. RCSD purchases water from AVEK and pumps groundwater from two wells. RCSD has a filling station for water trucks at 35th Street West and Felsite Avenue in Rosamond, California. Water is available for a rate of 1 cent per gallon. Water from RCSD is evaluated as a potential source of project water supply.

Although MPUD does not meet the definition of a public water system under CWC 10912(c)(3), it provides water service to approximately 4,699 residents through 989 residential, 199 commercial, and 13 industrial connections. MPUD is located approximately 16 miles east of the project site and is considered a potential source water supply for the project. MPUD obtains water through a combination of purchases from AVEK and groundwater pumped from six wells. MPUD offers metered accounts for construction projects to fill water trucks from hydrants within its service area and receives SWP water from AVEK. The final water hydrant location is determined by MPUD after the application for a construction water permit is received.

Other nearby water systems that could potentially serve the project because they receive SWP water from AVEK include Los Angeles County Waterworks District No. 40, Lake Elizabeth Mutual Water Company, and California Water Service Company – Leona Valley, among others.

Imported Surface Water

As discussed previously, AVEK delivers SWP water to local retail agencies, including RCSD and MPUD. DWR manages and operates the SWP to ensure adequate water supplies are available to meet both human and environmental requirements under various hydrologic conditions. There are four different types of SWP deliveries, including Table A, Article 21, carryover, and turnback pool water.

Table A allocations are based on each contractor's proportion of the SWP's maximum delivery capability of up to 4,172,786 AFY, as established in long-term water supply contracts developed between the DWR and the contractors (which expire in 2035). Article 21 water is SWP water that contractors may receive on a short-term basis in addition to their Table A water and generally is available in wet water years when a surplus is available. Carryover water is unused Table A water that may be stored in the SWP's share of San Luis Reservoir for the contractor to use in the following year. Turnback pool water is Table A water that is sold to another contractor when a contractor determines their Table A allocation exceeds their water needs for the year. The reliability of SWP water delivery varies and depends on a number of factors, including rainfall, snowpack, reservoir storage, pumping capacity of SWP facilities, and legal/regulatory restrictions.

Recycled Water

Recycled water in the project area is available from two primary sources: the Palmdale Water Reclamation Plant (WRP), located approximately 28 miles southeast of the project site, and Lancaster WRP, located approximately 17 miles southeast of the project site. The Los Angeles County Sanitation District owns and operates both plants, which collect and treat wastewater from the Cities of Palmdale and Lancaster. Both plants currently provide primary, secondary, and tertiary treatment. The Palmdale WRP has a design capacity of 12 million gallons per day and treated 9,021 AF of wastewater for urban and agricultural reuse in 2019. The Lancaster WRP has a design capacity of 18 million gallons per day and treated 15,052 AF of wastewater for agriculture, irrigation, wildlife habitat, maintenance, recreational impoundments, and urban reuse in 2018.

Recycled water is not currently considered a proposed water source for the project but could serve as a backup source, if needed.

Water Supply Reliability

The following provides an assessment of the proposed sources of water supply, including from the AVGB, FVGB, and AVEK.

AVGB Assessment

As previously discussed, the Judgment established a native safe yield of 82,300 AFY and a total safe yield of 110,000 AFY. The Judgment limits the amount of groundwater that can be produced without replacement and is actively managed by the Watermaster to ensure the sustainability of groundwater supplies. The Judgment only allows parties listed in the Judgment to pump groundwater.

Groundwater production over the past five years has been below both the native and total safe yields, and ranged from approximately 58,408 AF in 2023 to 79,757 AF in 2021. Overall, total production by parties with production rights has declined since the AVGB was adjudicated and appears to be stabilizing close to the native safe yield. Groundwater levels across the AVGB have either stabilized or the rates of decline have decreased in recent years, when compared to the preceding two decades. The AVGB's water supply reliability is further discussed under Impact 4.17-2.

FVGB Assessment

The FVGB is not adjudicated and is designated by DWR as a low-priority basin. Annual average recharge to the basin is estimated to be approximately 13,800 AFY, and the total storage capacity is estimated to be 4.8 million acre-feet or more.

The FVGB Groundwater Management Plan projected water demands in the FVGB, including groundwater demands in five-year increments through 2040 under four potential scenarios: baseline, light, medium, and heavy agricultural growth. The baseline condition is based on planned residential and industrial development, while the light, medium, and heavy growth scenarios assume potential agricultural activity, though there are no formal plans to increase agriculture beyond current levels. For the year 2030, the closest year to when the project would be constructed, groundwater demand is estimated to range from 8,456 AF in the baseline scenario to 13,467 AF in the heavy growth scenario. This indicates that under all scenarios, groundwater demand will be lower than or approximately equal to the annual recharge to the basin of 13,800 AFY around the time the project is constructed. Looking beyond 2030, groundwater demand is estimated to be below the average recharge to the basin under the baseline and light growth scenarios, but exceeds the average recharge under the medium agriculture growth scenario in 2040 and the heavy agriculture

growth scenario in 2035 and 2040 by up to 4,446 AF; however, there are currently no plans to increase agriculture in the Fremont Valley Groundwater Basin and these hypothetical scenarios were analyzed to illustrate how additional agricultural growth would impact the basin to inform future decisions for managing the basin sustainably. Under the baseline scenario, which is based on planned residential and industrial development, groundwater demand is projected to be 9,893 AF in 2040. The FVGB's water supply reliability is further discussed under Impact 4.17-2.

AVEK Assessment

AVEK delivers treated water from the SWP and groundwater to 23 customers, and untreated SWP water to four customers. Untreated SWP water is also banked in three locations for later recovery. As previously discussed, AVEK is entitled to 144,844 AFY of water from the SWP; however, the annual allocation varies depending on various regulatory and environmental factors. Through 2006, the long-term average allocation was 91 percent. Starting in 2007, the allocation varied widely, with a maximum of 85 percent in 2017 and a minimum of 5 percent in 2014 and 2021. The actual five-year average from 2017 through 2021 was 44 percent, and the 15-year average was 45 percent. This amounts to approximately 65,000 AFY.

During years when the SWP allocation is below AVEK customer demand, the agency can use carryover water stored from previous years and purchase dry year water when available. As of 2022, AVEK has a stored balance of 66,000 AF of water available for use when SWP deliveries are deficient compared to demand. AVEK has also split imported SWP deliveries to customers as follows: treated and untreated water deliveries; inside and outside the adjudicated area; by customer; and by delivery location.

AVEK's reliable quantity of projected water supply sources, from 2025 to 2045, is presented in **Table 4.17-1**, *Projected AVEK Supplies*. AVEK's projected quantities of imported water supplies and groundwater supplies are based on long-term average allocations reported for the future conditions study from the 2019 Delivery Capability Report issued by the DWR. The AVEK's water supply reliability is further discussed under Impact 4.17-2.

TABLE 4.17-1: PROJECTED AVEK WATER SUPPLIES

	Actual Volume	Projected Water Supply (AFY)				
Water Supply	**(2020)**	**(2025)**	**(2030)**	**(2035)**	**(2040)**	**(2045)**
SWP	29,507	81,840	79,660	77,490	75,320	75,320
Groundwater[1]	12,229	4,350	4,350	4,350	4,350	4,350
New Supply[2]	0	4,890	9,780	12,190	14,760	17,340
Groundwater Bank	7,213	0	0	0	0	0
Supply Total	**48,949**	**91,080**	**93,790**	**94,030**	**94,430**	**97,010**

Notes:

[1] Groundwater supply includes both AVEK production right per Judgment (3,550 AF) and imported water return flows and carryover water (800 AF).

[2] New supply per LACWD MOU is 70% of the total new projected demand.

Source: WSA (**Appendix L**).

AVEK's demand projections, which account for development and population growth within its service area, are compared to projected water supplies in **Tables 4.17-2** through **4.17-4**. These tables compare supply and demand during normal, single dry, and multiple dry water years during a 20-year projection.

TABLE 4.17-2: AVEK NORMAL YEAR SUPPLY AND DEMAND COMPARISON (AFY)

Supply / Demand	2025	2030	2035	2040	2045[b]
State Water Project[a]	81,840	79,660	77,490	75,320	75,320
Groundwater Production[b]	4,350	4,350	4,350	4,350	4,350
New Supply	4,890	9,780	12,190	14,760	17,340
Groundwater Bank	0	0	0	0	0
Supply Totals	91,080	93,790	94,030	94,430	97,010
Demand Totals	44,440	50,990	51,880	55,210	57,590
Difference	**46,640**	**42,800**	**42,150**	**39,220**	**39,420**

Notes:

[a] 52-58 percent forecast for SWP allocation.

[b] Groundwater Supply includes AVEK production right per Judgment (3,550 AF) and imported water return flows and carryover water (800 AF).

Key: AFY = acre-feet per year; AVEK = Antelope Valley – East Kern Water Agency.

Source: WSA (**Appendix L**).

TABLE 4.17-3: AVEK SINGLE DRY YEAR SUPPLY AND DEMAND COMPARISON (AFY)

Supply/Demand	2025	2030	2035	2040	2045[b]
State Water Project[a]	7,240	7,240	7,240	7,240	7,240
Groundwater Production	4,350	4,350	4,350	4,350	4,350
New Supply	4,890	9,780	12,190	14,760	17,340
Groundwater Bank	27,960	29,620	28,100	28,860	28,660
Supply Totals	44,440	50,990	51,880	55,210	57,590
Demand Totals	44,440	50,990	51,880	55,210	57,590
Difference	**0**	**0**	**0**	**0**	**0**

Notes:

[a] 5 percent forecast for SWP allocation.

[b] Groundwater Supply includes AVEK production right per Judgment (3,550 AF) and imported water return flows and carryover water (800 AF).

Key: AFY = acre-feet per year; AVEK = Antelope Valley – East Kern Water Agency

Source: WSA (**Appendix L**).

TABLE 4.17-4: AVEK MULTIPLE DRY YEAR SUPPLY AND DEMAND COMPARISON

Year	Supply/ Demand	2025	2030	2035	2040	2045[b]
First Year	Supply Totals	44,440	50,900	51,880	55,210	57,590
	Demand Totals	44,440	50,900	51,880	55,210	57,590
	Difference	0	0	0	0	0
Second Year	Supply Totals	55,920	60,810	63,220	65,790	68,370
	Demand Totals	44,440	50,900	51,880	55,210	57,590
	Difference	11,480	9,820	11,340	10,580	10,780
Third	Supply Totals	44,440	50,900	51,880	55,210	57,590

Year	Supply/ Demand	2025	2030	2035	2040	2045[b]
Year	Demand Totals	44,440	50,900	51,880	55,210	57,590
	Difference	0	0	0	0	0
Fourth Year	Supply Totals	46,280	51,170	53,580	56,150	58,730
	Demand Totals	44,440	50,900	51,880	55,210	57,590
	Difference	1,840	180	1,700	940	1,440
Fifth Year	Supply Totals	44,440	50,900	51,880	55,210	57,590
	Demand Totals	44,440	50,900	51,880	55,210	57,590
	Difference	0	0	0	0	0

Notes:
All values in acre-feet per year.
Key: AVEK = Antelope Valley – East Kern Water Agency
Source: WSA (**Appendix L**).

Wastewater

The Kern Sanitation Authority provides maintenance and wastewater service for Kern County. As the majority of the project site is currently undeveloped, with some high-voltage transmission and communications infrastructure, there is no sewer infrastructure in place. A septic tank and leach field would be provided for each of the proposed operation and maintenance buildings to manage sanitary waste. In the unforeseen event that a leach field is found infeasible or impractical, sanitary waste would be held in tanks and periodically removed from the project site by a licensed contractor.

Stormwater Drainage

As described in **Section 4.10**, *Hydrology and Water Quality*, of this Draft EIR, the project site is at the western edge of the Antelope Valley in the southeastern corner of the desert region in unincorporated Kern County. The project site has a relatively flat terrain with site elevations ranging from approximately 2,970 to 3,760 feet above mean sea level due to being south of the Tehachapi Mountains, where the land gradually slopes downward from the northwest towards the southeast. The site is relatively flat with slopes of less than 2 percent, though there are locations where the slopes reach roughly 5 percent. The *Jurisdictional Waters Delineation Report* prepared for the project (**Appendix C9**) also identified eight unnamed ephemeral drainage features within the project site. All on-site drainage features generally flow from the west and north of the site to the southeast. On-site drainage only conveys surface flow in direct response to precipitation and does not support riparian vegetation.

The project is in the Northern Mojave Desert Watershed Basin (HUC-6: 18092), toward the western edge of the Antelope-Fremont Valleys Subbasin (HUC-8: 18090206). Within the subbasin, the project site is in the Sacatara Creek-Kings Canyon Watershed (HUC-10: 1809020613). The Northern Mojave Desert Watershed Basin is topographically bordered on the west by the Sierra Nevada Mountains, to the east by the State of Nevada, and to the south by a series of hills and buttes that generally follow the Los Angeles/San Bernardino County line (USGS 2026).

Solid Waste

Solid waste generally refers to garbage, refuse, sludge, and other discarded solid materials from residential, commercial, industrial, institutional, agricultural, mining, and other activities. Construction, demolition, and inert wastes are also classified as solid waste.

The Kern County Public Works Department Waste and Recycling Division provides environmentally safe management of solid waste and is responsible for operating seven landfills, five transfer stations, and three bin sites throughout Kern County. In most cases, solid waste is hauled directly to Class III landfills, with the remainder being taken to transfer stations, resource recovery centers, or refuse-to-energy facilities. Class III landfills typically handle the disposal of nonhazardous waste. The wastes that the Kern County Public Works Department Waste and Recycling Division manages are as follows:

- Nonhazardous solid waste that consists mostly of household garbage, commercial wastes, agricultural waste, and litter
- Special waste, or any waste that requires special handling, including infectious waste, pesticide containers, sewage sludge, oilfield waste, household hazardous waste, and asbestos waste
- Designated waste, or waste that consists of, or contains pollutants that could be released at concentrations in excess of, applicable water quality objectives and standards or hazardous waste that has been granted a variance from hazardous waste management requirements
- Hazardous waste, or waste that, because of its quantity, concentration, physical, chemical, or infectious characteristics, may either: (a) cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness, or (b) pose a substantial present or potential hazard to human health or the environment when improperly managed
- Industrial wastes, or hazardous and nonhazardous by-products from oil and gas extraction, pesticide, paper, petrochemical, rubber, plastics, electronics, and other industries

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 waste, and Class III landfills may accept nonhazardous waste.

Kern County (County) is responsible for compliance with the California Integrated Wastewater Management Act of 1989, AB 939. Since January 1, 2000, AB 939 has required cities and counties to reduce the amount of solid waste being sent to landfills by 50 percent and prepare certain solid waste planning documents. These documents include the Source Reduction and Recycling Element, the Household Hazardous Waste Element, and the Non-Disposal Facility Element. All three of these documents have been approved for the County, as well as an Integrated Waste Management Plan approved in February 1998 by the California Integrated Waste Management Board. The Kern County Integrated Waste Management Plan is the long-range planning document for landfill facilities.

Landfills

The Kern County Public Works Department operates seven recycling and sanitary landfills throughout Kern County; landfills are located in Bakersfield, Boron, Mojave-Rosamond, Ridgecrest, Shafter-Wasco, Taft, and Tehachapi (Kern County 2026a).

The closest operational landfill to the project site is the Mojave-Rosamond Recycling and Sanitary Landfill, which is approximately 22 miles northeast of the site at 400 Silver Queen Road in Mojave. This facility is a Class III landfill and accepts waste from construction and demolition activities, as well as agricultural, industrial, and mixed municipal sources. The maximum permitted capacity of the Mojave-Rosamond Landfill is 78,000,000 cubic yards, with a permitted maximum tonnage of 3,000 tons per day. The estimated cessation of operation date, or the year the facility stops receiving waste, is 2132 (CalRecycle 2026a).

Another landfill in general proximity to the project site is the Tehachapi Sanitary Landfill; however, as of January 2026, Kern County Public Works responded to the landfill nearing its waste capacity by opening a temporary Tehachapi Transfer Station located at the landfill. Kern County Public Works' Solid Waste Division is currently designing a new permanent transfer station to serve the Tehachapi community. The facility is anticipated to be operational in 2028.

Electric Power, Natural Gas, and Telecommunications

The project site is mostly undeveloped except for high-voltage transmission infrastructure and communications infrastructure that would not be impacted by the project; the site is in an area where SCE provides electric power. The SCE Whirlwind Substation is directly south of the project site and was built specifically for the Tehachapi Renewable Transmission Project to collect energy from wind farms to the SCE transmission network. The Tehachapi Renewable Transmission Project is a 500 kilovolt (kV) high-voltage transmission line that spans approximately 170 miles and is capable of transferring 4,500 megawatts of power, which is enough power for up to approximately 3 million homes (Edison International 2026). The project would interconnect to the SCE Whirlwind Substation via new tie-line facilities.

On-site electric power for construction would be provided by portable diesel-fired generators, because there is no electric distribution line nearby and the voltage of the nearby transmission is too high to be of practical use for construction purposes. On-site power needs for operations would be served via two station service transformers at each collector substation. These station service transformers would provide stepped-down voltage power for on-site demands, such as system controls, lighting, security systems, climate-controlled storage containers, and operation and maintenance building needs.

There are no natural gas providers within the project vicinity, nor are there any natural gas or petroleum wells within the project vicinity. The closest natural gas service area is provided by Southern California Gas (SoCalGas), approximately 11 miles east of the project site (SoCalGas 2026). The closest well to the project site is approximately 1.25 miles north of the project site and is plugged (CalGEM 2026).

Telecommunication lines linking the collector substations and the existing communications room at the SCE Whirlwind Substation would also be needed as part of the project. To ensure reliability, two independent communication lines would be needed for each tie-line.

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 that are 50 megawatts or larger; promoting energy efficiency through appliance and building standards; developing energy technologies and supporting renewable energy; and planning/directing State responses 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 in 1911 as the Railroad Commission. And 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. The CPUC is tasked with ensuring that safe, reliable utility service is available to consumers, setting retail energy rates, and protecting against fraud.

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.

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 (RWQCB). 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.

Integrated Regional Water Management

Integrated Regional Water Management (IRWM) is a collaborative effort to manage all aspects of water resources in a region and is overseen by the DWR. The State's IRWM program was developed beginning with SB 1672, which created the Integrated Regional Water Management Act to encourage local agencies to work cooperatively to manage local and imported water supplies to improve water quality, quantity, and

reliability. Since then, California voters have approved more than $2 billion in bond funds to plan and implement over 1,450 integrated, multi-benefit regional projects across the state that foster climate resilience by mitigating drought impacts, improving water supply reliability, reducing flood and fire risk, increasing surface and groundwater storage, restoring and enhancing ecosystems, and improving water quality. The State recognizes that there is a need to consider a broader range of resource management issues, competing water demands, new approaches to ensuring water supply reliability, and new ways of financing. The IRWM authorizes a regional water management group to prepare and adopt an Integrated Regional Water Management Plan that addresses regional-scale water supply and related matters (AVRWMG 2019).

Senate Bill 610

Passed in 2001, Senate Bill (SB) 610 amended the California Water Code to require a detailed analysis of water supply available to certain types of development projects and to improve the linkage between water supply availability and certain land use decisions. SB 610 requires that a WSA be prepared early in the land use planning process for certain 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.

Assessments must also identify existing water entitlements, rights, and contracts, and quantify 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. According to 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 (CWC Section 10912). Accordingly, as this project satisfies the statutory definition of a "project" because it is an industrial project occupying more than 40 acres of land, a WSA (**Appendix L**) was prepared.

Sustainable Groundwater Management Act

The SGMA requires the formation of locally controlled groundwater sustainable agencies in high- and medium-priority groundwater basins. These groundwater sustainability agencies are responsible for developing and implementing a groundwater sustainability plan to ensure the basin is operated within its sustainable yield without causing undesirable results. The Judgment of Adjudication for the AVGB was entered in December 2015. To administer the Judgment, the court directed the appointment of a five-member Watermaster Board. In 2016, the Watermaster Board and an Advisory Committee were formed. The board finalized the hiring of a watermaster engineer 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 and the DWR in accordance with the SGMA.

California Department of Water Resources California's Groundwater (Bulletin 118)

California's Groundwater (Bulletin 118) is the State's official publication on groundwater. It defines groundwater basin boundaries and summarizes current information for each of the State's 10 hydrologic regions, including locations, conditions, characteristics, use, and management status. The publication also presents findings and recommendations that support the future management and protection of groundwater.

California Water Code Section 10720

Section 10720 of the CWC establishes minimum standards for sustainable groundwater management, codified by SGMA, primarily to medium- and high-priority basins identified by the DWR.

California Water Code Section 10910

CWC Section 10910 outlines requirements for water supply assessments for certain development projects subject to the California Environmental Quality Act (CEQA). Section 10910(d) of the CWC requires that a WSA identify and describe the water supply source (or sources) that would serve the project. This includes the identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the project, and a description of the quantities of water received in prior years if the source is a public water supplier, including agricultural water suppliers.

California Water Code Section 13260

Section 13260 of the CWC 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 proposed project that would be applicable under CWC Section 13260 would be reported to the Central Valley RWQCB. However, the proposed project is not expected to discharge waste into a water body and, therefore, is not required to provide a report of any discharge.

California Department of Resources, Recycling and Recovery

The California Department of Resources Recycling and Recovery (CalRecycle) is the state agency designated to oversee, manage, and track the state's 76 million tons of waste generated each year. It is one of six agencies under the umbrella of the California Environmental Protection Agency. CalRecycle administers/provides oversight of the State-managed nonhazardous waste-handling and recycling program, providing training and ongoing support for local enforcement agencies that regulate and inspect active and closed solid-waste landfills (CalRecycle 2026b).

California Integrated Waste Management Act of 1989 (Assembly Bill 939)

The Integrated Waste Management Act, adopted in 1989 and as amended (Public Resources Code [PRC] 40050 et seq. or AB 939, codified in PRC 40000), administered by CalRecycle, requires all local and county governments to adopt a Source Reduction and Recycling Element to identify means of reducing the amount of solid waste sent to landfills. Pursuant to this law, since January 1, 2000, cities and counties have been required to divert at least 50 percent of their waste stream from landfills. To assist local jurisdictions in achieving this goal, the California Solid Waste Reuse and Recycling Access Act of 1991 requires all new developments to include adequate, accessible, and convenient areas for collecting and loading recyclable and green waste materials.

The 2022 California Green Building Code Section A5.408 requires at least 65 percent of the nonhazardous construction and demolition waste generated at the nonresidential construction sites to be recycled or salvaged.

Senate Bill 1374 (Construction and Demolition Waste Materials Diversion)

SB 1374, Construction and Demolition Waste Materials Diversion Requirements, was adopted in 2002 and requires that jurisdictions summarize their progress realized in diverting construction and demolition waste

from the waste stream in their annual AB 939 reports. SB 1374 required the California Integrated Waste Management Board (CIWMB) to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

California Integrated Waste Management Board Model Ordinance

Subsequent to the Integrated Waste Management Act, additional legislation was passed to assist local jurisdictions in accomplishing the goals of AB 939. The California Solid Waste Reuse and Recycling Access Act of 1991 (PRC Sections 42900–42911) directs the CIWMB to draft a "model ordinance" relating to adequate areas for collecting and loading recyclable materials in development projects. The model ordinance requires that any new development project include "adequate, accessible, and convenient areas for collecting and loading recyclable materials."

California Solid Waste Reuse and Recycling Access Act of 1991 (Senate Bill 1327)

The California Solid Waste Reuse and Recycling Access Act of 1991 (PRC Chapter 18) identified a lack of adequate areas for collecting and loading recyclable materials, resulting in a significant impediment to diverting solid waste. This act requires State and local agencies to address access to solid waste for source reduction, recycling, and composting activities. Each local agency must adopt an ordinance related to adequate areas for collecting and loading recyclable materials for development projects.

California Mandatory Commercial Recycling Law (Assembly Bill 341)

AB 341 directed CalRecycle to develop and adopt regulations to reduce greenhouse gas emissions by diverting commercial solid waste through additional recycling services and recycling manufacturing facilities in California.

Since July 1, 2012, businesses have been required to recycle, and each jurisdiction has implemented programs that include education, outreach, and monitoring regarding recycling. Jurisdictions must report on their education, outreach, and monitoring efforts, and, if applicable, on any enforcement activities or exemptions that they implement.

In addition to Mandatory Commercial Recycling, AB 341 established a statewide goal of 75 percent disposal reduction by the year 2020. Given that the target that AB 341 established is a goal rather than a mandate, the 50 percent disposal reduction mandate of AB 939 (described above) still applies to cities, counties, and State agencies. CalRecycle continues to evaluate program implementation (as it has in the past) through the Annual Report review process for entities subject to AB 939.

California Short-lived Climate Pollutant Reduction Strategy (Senate Bill 1383)

SB 1383, Short-lived Climate Pollutants (SLCP): Organic Waste Reductions, was signed into law in September 2016 and intends to reduce harmful, short-lived pollutants with significant warming impacts; it is essential to achieving California's climate goals. SB 1383 makes it mandatory for all businesses to recycle their organics weekly and divert organic material from the landfill, which can include donating surplus food. Its statewide goal is to reduce the amount of organic waste disposed of in landfills (50 percent reduction by 2020 and 75 percent reduction by 2025). It also aims to rescue at least 20 percent of food that would otherwise be disposed of for human consumption by 2025.

SB 1383 requires counties to take the lead in collaborating with the jurisdictions located within the county in planning for the necessary organic waste recycling and food recovery capacity needed to divert organic waste from landfills into recycling activities and food recovery organizations. It requires organic waste

facilities and operations to measure and report organic waste material activity, including composting and anaerobic digestion.

California Green Building Code

As part of compliance with the State of California Green Building Code Requirements (CALGreen) that took effect beginning January 2011, the County implemented the following construction waste diversion requirements:

- Submittal of a Construction Waste Management Plan prior to project construction for approval by the Kern County Building Department
- Recycling and/or reuse of a minimum 50 percent of construction and demolition waste
- Recycling or reuse of 100 percent of tree stumps, rocks, and associated vegetation and soils resulting from land clearing

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 this goal:

1. Move organics out of the landfill.
2. Expand recycling/manufacturing infrastructure.
3. Explore new approaches for State and local funding of sustainable waste management programs.
4. Promote State procurement of post-consumer recycled content products.
5. Promote 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 65 percent waste diversion on construction and some renovation projects. The State also recommends promoting the recovery of construction and demolition materials that are suitable for reuse, compost, or anaerobic digestion—before residual wastes are considered for energy recovery.

Energy California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24 Building Standards)

The CEC administers Title 24 Building Standards, which were first adopted in 1976 in response to a legislative mandate to reduce California's energy consumption. Standards are periodically updated to allow consideration and possible incorporation of new energy efficiency technologies and methods. California's building efficiency standards are updated on an approximately three-year cycle. On August 11, 2021, the CEC adopted the 2022 Energy Code. In December 2022, it was approved by the California Building Standards Commission for inclusion in the California Building Standards Code. The 2022 Energy Code

encourages efficient electric heat pumps, establishes electric-ready requirements for new homes, expands solar photovoltaic and battery storage standards, strengthens ventilation standards, and more. Buildings that are the subject of permit applications submitted on or after January 1, 2023, must comply with the 2022 Energy Code.

Local

Construction and operation of the project would be subject to policies and regulations contained within the County's general and specific plans, including the Kern County General Plan (KCGP), the Willow Springs Specific Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to utilities and service systems. The policies, goals, and implementation measures in the KCGP and Willow Springs Specific Plan related to utilities and service systems that are applicable to the project are provided below. The KCGP 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 KCGP are incorporated by reference.

Kern County Water Wells Program

The Kern County Water Wells Program issues permits to construct, reconstruct, and destroy water wells. It evaluates the construction and water quality of existing water wells, reviews/approves applications for new wells, and issues associated permits (Kern County 2026b).

Antelope Valley Integrated Regional Water Management Plan

The Antelope Valley Integrated Regional Water Management Plan (IRWMP) is a joint water-planning effort aimed at ensuring water supply reliability for the Antelope Valley region, undertaken by agencies that 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 RCSD. These agencies have collectively defined a water resource management plan in the Antelope Valley IRWM Plan, which describes a course of action to meet the expected water demands within all of Antelope Valley through 2040.

The primary goals of the Antelope Valley IRWMP are to address the following:

- How municipal and industrial 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.
- Opportunities to protect and enhance the current water resources (including groundwater) and the environmental resources within Antelope Valley (AVRWMG 2019).

In accordance with the 2015 adjudication of the AVGB establishing a safe yield and decreased respective water rights among groundwater producers, the Antelope Valley Watermaster Board and Advisory Committee were formed in 2016. The Antelope Valley Watermaster is responsible for administering adjudicated water rights within Antelope Valley, including approving new production wells, collecting and

reviewing groundwater production reporting forms, and producing annual reports that summarize overall groundwater production and replenishment in the AVGB.

Antelope Valley-East Kern Water Agency (AVEK) Urban Water Management Plan

The AVEK 2020 Urban Water Management Plan (UWMP) was finalized in 2021 and covers the approximately 2,400 square miles of northern Los Angeles and eastern Kern Counties AVEK service area. The plan outlines water supply reliability and strategies for managing reliability risks. AVEK water supplies include imported water from the SWP, non-SWP imported water, and groundwater pumped from the AVGB. Delivery of SWP water fluctuates depending on factors such as rainfall, snowpack, reservoir storage, pumping capacity, and regulatory and environmental mandates. To ensure water supply reliability, AVEK has established use of supply enhancement programs, such as groundwater banking and conjunctive water use (AVEK 2021).

Fremont Basin Integrated Regional Water Management Plan

The Fremont Basin IRWMP was developed by the City of California City, MPUD, and AVEK (collectively referred to as a Regional Water Management Group or RWMG) to provide planning and the integrated management of water resources in the region. The IRWMP identifies and implements water management solutions on a regional scale to increase regional self-reliance, reduce conflict, and manage water in a way that combines social, environmental, and economic objectives.

The Fremont Basin IRWMP identifies the following regional objectives:

- How to increase regional water supply reliability to meet demands;
- How to ensure sustainable use of the FVGB;
- How to provide drinking water that meets regulatory requirements and customer needs;
- How to protect water quality in groundwater basins in the region;
- How to reduce negative impacts associated with stormwater;
- How to support water needs of open space/recreational/migratory habitat areas;
- How to support agricultural land uses;
- How to improve integrated land uses planning to support water management; and
- How to mitigate climate change.

To accomplish these objectives, several targets were set, including increasing recycled water use and stormwater capture, maintaining conservation programs, identifying infrastructure at risk of being compromised, beginning to develop a GSA and GSP for the FVGB, defining the safe yield of the FVGB, and managing the FVGB such that the 10-year average change in groundwater levels is zero (RWMG 2019). While the project site is located outside of the Fremont Valley Groundwater Basin Region, the project may still obtain water from the Basin.

Fremont Valley Basin Groundwater Management Plan

The FVGB Groundwater Management Plan (GWMP) was prepared as part of the Fremont Basin IRWMP (RWMGFBIRWMR 2019) to facilitate the sustainable management of groundwater resources in the FVGB (RWMGFBIRWMR 2018). The GWMP provides a description of the basin physical setting, characterizes the basin hydrogeology, evaluates water demand and supplies, outlines basin management goals and objectives, establishes basin management strategies and projects, and identifies the monitoring program. Groundwater supplies are predicted to be sufficient to satisfy planned residential and industrial development in the basin (baseline scenario) and light agricultural growth (light growth scenario) but may not be sufficient for medium or heavy agricultural growth. As such, the GWMP identifies management strategies and projects to support the long-term sustainable management of the FVGB including agricultural and urban water use efficiency, groundwater remediation, conjunctive use programs, recycled water projects, and stormwater capture and recharge to name a few (RWMGFBIRWMR 2018)

Rosamond Community Services District Urban Water Management Plan

The 2020 UWMP was finalized in 2023 and provides information on RCSD's current and projected water use and supply reliability (RCSD 2023). The 2025 UWMP Public Review Draft was released on May 2026. While not finalized, the 2025 UWMP provides updated water supply data and planning needs (RCSD 2026).

RCSD's water supplies include groundwater pumped from the AVGB, banked groundwater, and surface water imported from AVEK. RCSD makes an annual request to AVEK for SWP water, dependent on SWP availability. The combined groundwater and banked groundwater supplies are sufficient for single and multiple dry years between 2025 and 2024 (RCSD 2023).

Kern County Integrated Waste Management Plan

The Kern County Public Works Department is required by the State to plan and implement waste management activities and programs in Kern County's unincorporated area to assure compliance with AB 939 (as amended) and subsequent State mandates. The Kern County Integrated Waste Management Plan includes a Reduction and Recycling Element, Household Hazardous Waste Element, and Non-Disposal Facility Element. The Plan was approved in February 1998 by the CIWMB (now California Department of Resources Recycling and Recovery, or CalRecycle). The Kern County Integrated Waste Management Plan is the long-range planning document for landfill facilities.

Kern County and Incorporated Cities Hazardous Waste Management Plan

In 1991, the County and the incorporated cities adopted the Kern County and Incorporated Cities Hazardous Waste Management Plan to comply with State law (California Health and Safety Code Section 25135 et seq.). The Hazardous Waste Management Plan includes goals, policies, and implementation measures regarding the safe and responsible management of hazardous waste, including waste stream management, source reduction, siting of new facilities, and other provisions. The safe management of hazardous waste is to be in accordance with federal, State, and local laws.

Kern County Construction Waste Diversion Requirements per the California Green Building Code

As part of compliance with CALGreen that took effect beginning January 2011, the 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 of 65 percent of construction and demolition waste
- Recycling or reuse of 100 percent of tree stumps, rocks, and associated vegetation and soils resulting from land clearing

Kern County Public Works Department Recycling Programs

The Waste Operations Division of the Kern County Public Works Department administers or sponsors the following recycling programs, which contribute toward meeting State-mandated solid-waste diversion goals to achieve 75 percent recycling, composting, or source reduction of solid waste by 2020:

- Recycling programs at landfills to recycle or divert a wide variety of products, such as wood waste, cathode ray tubes, tires, inert materials, appliances, etc.
- Drop-off recycling centers for household recyclables. The County- and the city-operated drop-off recycling centers, which are located in the unincorporated metropolitan area and the city, may be used by both County and city residents.
- Financial assistance for the 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.
- Semiannual “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)
- Recycling trailers for churches, schools, and nonprofit organizations

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for utilities and service systems applicable to the project are provided below (Kern County 2009). The KCGP contains additional policies, goals, and implementation measures that are more general in nature and not specific to development, such as the

project; therefore, they are not listed below. But as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP 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.

Goal 9: Serve the needs of industries and Kern County residents in a manner that does not degrade the water supply and the environment and protect the public health and safety by avoiding surface and subsurface nuisances resulting from the disposal of hazardous wastes, irrespective of the geographic origin of the waste.

Policies

Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.

Policy 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 E: Continue to establish coordinated efforts between government entities and private enterprise to identify and preserve unique scenic qualities of existing natural resources and to enhance the image of the County as a whole.

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.

Measure N: Secure complete and accurate information on all hazardous wastes generated, handled, stored, treated, transported, and disposed of within or through Kern County.

1.10 General Provisions

Goals

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

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 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.

Willow Springs Specific Plan

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). This plan was adopted in 1992 and amended in 2008 as part of the Land Use, Open Space, and Conservation Element of the KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for utilities and service systems applicable to the project are provided below. The Willow Springs Specific Plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated in **Chapter 2**, *Introduction*, all goals, policies, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Public Facilities

Goals

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.

Implementation Measures

Measure 2: The following standards reflect the level of general government services currently provided by the County of Kern. These standards do not supersede any requirements established by applicable Kern County Code and Ordinance requirements, nor do they require the County to provide or maintain any listed service or facility.

- Roadways
  - Level of Service C
- Parks and Recreation
  - 2.5 acres per 1,000 population of neighborhood and community parkland
- Fire Protection
  - One fire station per 8,155 population, with average manning of 3.8 on-duty firefighters per fire station

- Law Enforcement
  - 7 officers per 15,000 population, with 3 patrol cars per 7 officers sufficient to support staff and facilities including detention facilities
- Libraries
  - 17,981 square feet of library space per 34,397 population, with associated staff and books

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 18: Where individual lot sizes and/or soil types are found unsuitable for individual sewage disposal systems, as determined by the Kern County Environmental Health Services Department or the California Regional Water Quality Control Board, connection to the RCSD central treatment plant or other sewage treatment plant shall be required. All subdivisions and mobile home park developments, regardless of lot size, shall be required to connect to the central treatment plant or to construct, operate, and maintain "package" sewage treatment plants at a level of efficiency and effectiveness at least equivalent to that provided by the community services district central treatment plan.

Measure 20: Proper address signs shall be provided by the individual project applicants for easy identification of locations during emergencies.

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) Where feasible, voluntary refuse separation would also assist in reducing the ultimate quantity of solid waste deposited in the Rosamond-Mojave Landfill by allowing for recycling/resource recovery (a curbside recycling program).

(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.

4.17.4 Impacts and Mitigation Measures

Methodology

Potential impacts to utilities and service systems associated with construction, operation, and decommissioning of the project have been evaluated using a variety of resources, including multiple online sources and published documents, as well as the project-specific WSA (Dudek 2026, **Appendix L**). In addition, current data obtained from the County and the State of California about the capacity of landfills was used to identify potential solid-waste 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 sufficient 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 adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;

d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or

e. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

Project Impacts

Impact 4.17-1: The project would require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

Construction and Decommissioning

Water

The majority of the project water demand would occur during the 24-month construction phase and the 12-month decommissioning phase. Each phase is estimated to require approximately 55 AF of water, for a combined total of 110 AF. Water would primarily be required for dust suppression, soil compaction, and grading. Daily water use would vary with seasonal weather and site-specific conditions, with higher demand anticipated during hot, dry, windy periods when dust-control requirements are greatest. Water for drinking and sanitation would be minimal and provided via trucked deliveries or bottled water.

As discussed in the WSA (**Appendix L**), the project plans to secure water through the purchase of 65 AF of carryover water rights from 2023. Groundwater production rights would be obtained from the AVGB under an Adjudicated Water Rights Agreement and provided to the project site via new on-site wells. Additionally, water may be sourced from the FVGB using private well(s) or purchased from a local retailer, such as MPUD, and transported to the project site via truck. Another option is obtaining SWP water provided by the AVEK through a local retailer, such as RCSD, also trucked to the project site. A combination of these sources may also be considered.

Any new wells constructed on the project site would be developed in accordance with applicable Kern County regulations. Water supply from other sources is anticipated to come from existing wells or other existing infrastructure and trucked to the project site. Based on current and projected groundwater demands in the FVGB, there is sufficient groundwater available to satisfy the project demand and all other groundwater uses for the life of the project. Further, AVEK receives an annual allocation of SWP water and also has banked SWP water available in the event that demands exceed the annual allocation. Therefore, the project would not require or result in the relocation or construction of new or expanded water facilities, which could cause significant environmental effects. Impacts would be less than significant.

Wastewater Treatment

Construction and decommissioning of the project would generate a minimal volume of wastewater. During construction activities, wastewater from portable toilet facilities and portable hand-washing facilities would be disposed of at an approved off-site disposal site. The Kern County Public Health Services Department/Environmental Health Services Division is responsible for monitoring the use of portable toilet facilities, and the project proponent would be required to provide documentation of a portable toilet pumping contract. No off-site sewage or disposal connections to a municipal sewer system exist or are proposed. Therefore, the project would not result in the relocation or construction of new or expanded wastewater treatment facilities; impacts would be less than significant.

Stormwater Drainage

As discussed in **Section 4.10**, *Hydrology and Water Quality*, the project would be required to adhere to Kern County Public Works Department stormwater requirements, which include measures to address stormwater controls on both the management of runoff volume and water quality, including controlling erosion and protecting the water quality of stormwater runoff. Additionally, in compliance with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit requirements, the project would design and submit a Storm Water Pollution Prevention Plan (SWPPP) to minimize the discharge of wastewater during construction and a Water Quality Management Plan that includes best management practices (BMPs) for runoff control, required by **Mitigation Measure** (**MM**) **4.10-1** (see **Section 4.10**, *Hydrology and Water Quality*).

The hydrologic study and final drainage plan required by **MM 4.10-2** would detail any necessary design features required to properly control stormwater runoff, both on-site and off-site. Further, **MM 4.11-1** (see **Section 4.11**, *Land Use and Planning*) requires that a Decommissioning Plan be developed and approved by the County as part of the building permit review. The Decommissioning Plan would adhere to the requirements of the appropriate governing authorities, including all applicable local, State, and federal requirements and BMPs.

With the implementation of **MM 4.10-1** and **MM 4.10-2**, construction and decommissioning of the project would not exceed the capacity of existing stormwater drainage systems in the area. Therefore, the project would not result in the relocation or construction of new or expanded stormwater drainage facilities; impacts would be less than significant.

Electrical Power

As there is no electric distribution line nearby, and the voltage of the nearby transmission is too high to be of practical use for construction purposes, power for construction and decommissioning activities would be provided by portable diesel-fired generators. Electricity is not expected to be consumed in large quantities during these project phases, as construction equipment, machinery, and vehicles would be diesel- or gasoline-powered. Therefore, project construction and decommissioning would not require or result in the relocation or construction of new or expanded electric power facilities; impacts would be less than significant.

Natural Gas

The project would not use natural gas during the construction phase. Therefore, construction of the project would not require or result in the relocation or construction of new or expanded natural gas facilities, the construction or relocation of which could cause significant environmental effects. Thus, no impact would occur.

Telecommunication Facilities

Telecommunications via fiber optic lines would not be required to support construction or decommissioning activities. Telecommunications would be supported by satellite and cellular service during construction. No off-site telecommunication connections are proposed during construction. Thus, no impact during construction or decommissioning would occur.

Operation

Water

During operations, water would be required for the flushing and filling of up to two firewater tanks and three operation and maintenance buildings. Bottled water would be provided at the operation and maintenance buildings for drinking. The annual water consumption for facility operations is expected to be up to 3 AFY, which equates to approximately a total of 105 AF over 35 years.

On-site water infrastructure would include water tanks distributed throughout the project site. A water tank with a collocated groundwater well are anticipated to be in each of the three designated Battery Energy Storage System (BESS) areas. In addition, an aboveground 10,000- to 30,000-gallon tank dedicated for potential fires would be adjacent to the incident command post near 170th Street West. Dedicated fire-water storage capacity would be provided to meet Kern County Fire Department Requirements; final locations and tank volumes would be subject to coordination with the department.

Similar to construction, the water supply for the project during operation would be supplied from one or more of the following options: groundwater from the AVGB sourced from a private well (or wells); purchased from a local retailer and trucked to the project site; and/or SWP water provided by AVEK through a local retailer and trucked to the project site.

As discussed in the WSA (**Appendix L**), the project proposes to secure water rights for the project operation by purchasing 3 AFY of permanent water production rights. Groundwater production rights would be obtained from the AVGB under an Adjudicated Water Rights Agreement and provided to the project site via new on-site wells. Acquiring these production rights would meet the project's estimated water demand over the life of the project. Supplemental water for decommissioning may be obtained from the FVGB or AVEK, either through on-site wells or truck delivery. It is expected that current and projected water demands would be able to support the project throughout its operating life. Any new wells constructed on the project site would be developed in accordance with applicable federal, State, and local regulations. Water supply from other sources is anticipated to come from existing wells or other existing infrastructure and trucked to the project site. Therefore, the project would not require or result in the relocation or construction of new or expanded water facilities, which could cause significant environmental effects. Impacts would be less than significant.

Wastewater Treatment

The project would involve the installation of a septic tank and leach system for each operation and maintenance building to manage sanitary waste. In the unforeseen event that a leach field is infeasible or impractical, sanitary waste would be held in tanks and removed periodically from the project site by a licensed contractor. The septic systems would be constructed in accordance with Kern County Department of Public Health requirements. Other than sanitary wastewater, the project does not include any routine activity that would generate wastewater. No off-site sewage or disposal connections to a municipal sewer system exist or are proposed. Therefore, operation of the project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

Stormwater Drainage

The project site is located in the southeastern corner of the desert region with no existing stormwater infrastructure. The project includes planned stormwater control facilities, including retention and detention

basins to control stormwater flows and discharges. Stormwater flows would be conveyed in shallow riprap ditches with culverts under roads.

The project would be required to adhere to Kern County Public Works Department stormwater requirements, which include measures to address stormwater controls on both the management of runoff volume and water quality, including controlling erosion and protecting the water quality of stormwater runoff. In addition, the various retention and detention ponds that surround the proposed facilities would continue to absorb runoff. The hydrologic study and final drainage plan required by **MM 4.10-2** (see **Section 4.10**, *Hydrology and Water Quality*) would detail any necessary design features required to properly control stormwater runoff, both on-site and off-site. With the implementation of **MM 4.10-2**, the project would not exceed the capacity of existing stormwater drainage systems in the area. Therefore, operation of the project is not anticipated to result in the relocation or construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

Electrical Power

Electricity consumption during project operation would support climate-controlled electrical equipment, storage containers, and up to three approximately 1,200-square-foot operation and maintenance buildings. Additional electricity demands would include lighting, office equipment, water pumping, microwave communications, SCADA, and site security monitoring systems. On-site power would be supplied by the proposed station service transformers that would be located at each collector substation to meet operational needs. The project would not require the construction or relocation of new or expanded electric power facilities, the construction or relocation of which could cause significant environmental effects. Impacts associated with the construction and operation of station service transformers to provide on-site electrical power would be less than significant.

Natural Gas

The project would not use natural gas during the operation phase. Therefore, operation of the project would not require or result in the relocation or construction of new or expanded natural gas facilities, the construction or relocation of which could cause significant environmental effects. No impact would occur.

Telecommunication Facilities

To support remote communications with the California Independent System Operator Corporation (CAISO) and other outside parties, the project would include the construction and operation of two microwave communications towers. One tower would be located within the West BESS area, and the second tower would be located in the northwest corner of the South BESS area. Antennae would be positioned within the project site to ensure an unobstructed line of sight to other microwave locations, allowing the reliable transmission of high-capacity data signals. It would be equipped with a cable ladder for routing and antenna transmission lines.

Telecommunication lines connecting the collector substations and the existing communications room at the SCE Whirlwind Substation would be needed, as further discussed below. No off-site telecommunication connections would be required for the project. Operation of the project would not require or result in the relocation or construction of new or expanded telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Impacts associated with the construction and operation of the on-site microwave towers and telecommunication lines would be less than significant.

SCE Whirlwind Substation Upgrades

The project includes two 220-kV overhead tie-lines to the SCE Whirlwind Substation located on the adjacent parcels south of the project site. SCE's work activities outside of the Whirlwind Substation, including tie-line access clearing, installing telecommunications lines and tie-line support poles or towers, stringing overhead conductors, and operating and maintaining tie-lines to the Point of Change of Ownerships (POCOs), would disturb all land within a 100-foot-wide corridor centered on each of the off-site tie-line alignments. Within the existing SCE Whirlwind Substation, each tie-line would require the installation of facilities for a new 220-kV switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3.0,** *Project Description*.

Water

SCE construction activities between the project site and the interconnection at the existing Whirlwind Substation would result in disturbance of up to an additional 6.8 acres. Construction would require water for activities, such as dust suppression and soil compaction. As discussed, total water usage during construction, including the SCE Whirlwind Substation upgrades, is expected to be 55 AF of water over 24 months. The operation of the SCE Whirlwind Substation after installing the proposed upgrades would require a negligible amount of water. The SCE upgrades would not require or result in the relocation or construction of new or expanded water facilities, which could cause significant environmental effects. Impacts would be less than significant.

Wastewater Treatment

Portable restrooms and portable toilet facilities are anticipated during construction of the SCE upgrades, and all wastewater would be disposed of at an approved off-site location. The SCE interconnection facilities at the Whirlwind Substation and the SCE tie-lines would be unmanned; therefore, they are not expected to result in the construction of additional restroom facilities or require new or relocated wastewater treatment facilities. Impacts would be less than significant.

Stormwater Drainage

Ground disturbances associated with SCE's work activities would primarily occur within the previously developed footprint of the SCE Whirlwind Substation, with certain construction activities occurring within the two 100-foot tie-line corridors, including tie-line structure and telecommunication installations. SCE would comply with existing adopted BMPs and minimization measures, along with all applicable federal and state laws and regulations during construction, including those regulations that relate to stormwater drainage. Therefore, the SCE upgrades would not result in the relocation or construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

Electric Power

Construction of the SCE Whirlwind Substation upgrades would require a negligible amount of electricity, primarily utilizing portable diesel-fired generators and diesel or gasoline-powered machinery and equipment. On-site power needs for operations would be served by the existing electrical power sources serving the substation. The SCE Whirlwind Substation upgrades would not require or result in the relocation or construction of new or expanded electric power facilities. Impacts would be less than significant.

Natural Gas

It is not expected that the SCE Whirlwind Substation upgrades would use natural gas for construction and/or operational activities; therefore, this would not require or result in the relocation or construction of new or expanded natural gas facilities. Impacts would be less than significant.

Telecommunications

As discussed, telecommunication lines connecting the collector substations and the existing communications room at the SCE Whirlwind Substation would be needed. To ensure reliability, two independent telecommunication lines would be needed for each tie-line. The telecommunication lines would be placed underground, overhead, or configured with a combination of both. For the analyses provided in this Draft EIR, it is assumed that the telecommunication lines would be installed in two separate underground trenches.

If the telecommunications lines are constructed underground, they would be installed in relatively small (2-5-inch) diameter conduit or similar utility-standard conduit sizes. The telecommunication lines would also require an approximately 4-foot by 4-foot by 6-foot utility hole, a "meet-me" utility hole structure, or a functionally equivalent access structure located outside the SCE Whirlwind Substation fenceline. Within the existing Whirlwind Substation, each tie-line would require the installation of facilities for a new 220 kV switchrack and line positions to terminate the tie-lines and telecommunications infrastructure.

The need for underground telecommunications and precise locations for the underground installations would be determined during SCE's detailed design. No off-site telecommunication connections would be required for the SCE Whirlwind Substation upgrades. Impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.10-1**, **MM 4.10-2** (see **Section 4.10,** *Hydrology and Water Quality*), and **MM 4.11-1** (see **Section 4.11**, *Land Use and Planning*) would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.17-2: The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

Most of the water use for the project, including the SCE Whirlwind Substation upgrades, would occur during the initial 24-month construction phase. Based on the WSA, the estimated water required for project construction is 55 AF over a 24-month period. Water would primarily be required for dust suppression, soil compaction, and grading. Daily water use would vary based on seasonal weather conditions and site-specific conditions, with higher demand anticipated during hot, dry, windy periods when dust control requirements are greatest. Water for drinking and sanitation would be minimal and provided via trucked deliveries or bottled water.

Project operation is anticipated to require 3 AF of water per year over 35 years, for a total of 105 AF. Operational water use would be required for fire suppression and to supply three operation and maintenance buildings. Water demand for decommissioning is conservatively assumed to equal the demand for project construction of 55 AF over 12 months for dust suppression, soil compaction, and grading. In total, the

project would require 215 AF of water, with the amortized demand being approximately 5.7 AFY over the 38-year project life (5.5 AFY over a 20-year planning period).

As discussed in Impact 4.17-1 above, water for the project would be supplied from new on-site wells or trucked to the project site from one or more of the following sources:

- Groundwater from the AVGB, sourced from new on-site wells via an Adjudicated Water Rights Agreement
- Groundwater from the FVGB, sourced from private wells or purchased from a local retailer, such as MPUD, and trucked to the project site
- SWP water provided by AVEK through a local retailer, such as RCSD, and trucked to the project site

Table 4.17-5, *Water Supply and Demand Summary Over a 20 Year Planning Period (AFY),* below provides a summary of these water supply sources, and the sufficiency of each source is described below.

TABLE 4.17-5: WATER SUPPLY AND DEMAND SUMMARY OVER A 20 YEAR PLANNING PERIOD (AFY)

Water Source	Total Supply	Current Demand	Current Available Supply	Amortized Project Demand of 5.5 AFY as a Percent of Current Available Supply	Projected Demand	Projected Available Supply	Amortized Project Demand of 5.5 AFY as a Percent of Projected Available Supply
Antelope Valley Groundwater Basin	82,300[a]	63,563[b]	18,737	0.03%	≤82,300[c]	N/A	N/A
Fremont Valley Groundwater Basin	13,800[d]	7,985[e]	5,815	0.09%	9,893[f]	3,907	0.1%
State Water Project	65,000[g]	40,000[h]	25,000	0.02%	57,590[i]	7,410	0.07%

Notes:

All values are in acre-feet per year (AFY).

a. Native safe yield of the AVGB. The total safe yield is 110,000 AFY.

b. Total reported groundwater extractions in the AVGB in 2024.

c. The Judgment limits groundwater extraction in the AVGB. The project plans to purchase production rights that are within the safe yield.

d. Average annual recharge to the FVGB.

e. Estimated groundwater extraction in the FVGB in 2025 under the baseline scenario.

f. Estimated groundwater extraction in the FVGB in 2040 under the baseline scenario.

g. Average AVEK SWP supply for 15 years from 2007 to 2021. AVEK's total allocation is 144,844 AFY.

h. Average AVEK SWP demand for 8 years from 2014 to 2021.

i. AVEK's projected SWP in 2045. AVEK's total allocation is 144,844 AFY.

Key: N/A = not applicable

Source: WSA (**Appendix L**).

As discussed in **Section 4.17.2**, *Environmental Setting*, the AVGB Judgment limits the amount of groundwater that can be produced without replacement. The Judgment established a native safe yield of 82,300 AFY and a total safe yield of 110,000 AFY for the AVGB. Groundwater production over the past five years has been below both the native and total safe yields.

The FVGB is not adjudicated and is designated by the DWR as low priority. Annual average recharge to the basin is estimated to be approximately 13,800 AFY, and the total storage capacity of the basin is estimated to be 4.8 million acre feet or more. Based on current and forecasted groundwater demands in the FVGB, assuming planned residential and industrial development, there is sufficient groundwater available to satisfy the project demand and all other groundwater uses during normal, single dry, and multiple dry years over a 20-year projection and the 38-year life of the project. Although there is potential for future groundwater production to exceed the annual average recharge rate if medium or heavy agricultural growth occurs, the project's operational demand is low, and decommissioning demand is temporary; thus, the project is not expected to have a significant contribution to the exceedance. Additionally, there are currently no plans to increase agriculture in the FVGB.

The project plans to purchase 3 AFY of permanent production rights and 65 AF of carry-over water rights from an existing water rights holder who holds 294 AF of overlying production rights and 2,432 AF of carry-over water sourced from the AVGB. The total estimated project water demand (construction, operation, and decommissioning) was amortized over the estimated project life cycle (38 years) and over the SB 610 regulatory 20-year planning horizon. Based on this amortization, the total amortized annual water demand over the 20-year planning horizon is approximately 5.5 AFY, and 5.7 AFY over the project life cycle.

According to the WSA, the Judgment limits the amount of groundwater that can be produced from the AVGB without replacement. Groundwater production is actively managed by the Watermaster to ensure sustainability of the basin groundwater supplies. Because the project would purchase existing production rights and groundwater production is currently below the native safe yield (and has been for multiple years), there is sufficient groundwater available to satisfy the project demand and all other groundwater uses during normal, single dry, and multiple dry years over a 20-year projection and the life of the project.

The FVGB is not adjudicated and is designated by DWR as low priority. The FVGB Management Plan evaluated projected water demands in the basin, including groundwater demands, in five-year increments through 2040 under four potential scenarios. Based on current and projected groundwater demands assuming planned growth, there is sufficient groundwater available in the FVGB to satisfy the project demand and all other groundwater uses during normal, single-dry, and multiple-dry years over a 20-year project and the life of the project.

AVEK has sufficient water supplies to serve current and future water demands within its service area. AVEK has historically had more SWP water available for delivery than typically purchased by customers. AVEK receives an annual allocation of SWP water and also has banked SWP water available in the event demands exceed the annual allocation. AVEK's demand prediction in its 2020 UWMP accounts for development and population growth within its service area. Based on AVEK's water supply and demand comparison as a public water supplier for the project area and retail water agencies in the region, sufficient supplies exist to serve future water demands of development intensities consistent with the project during normal, single-dry, and multiple-dry years of a 20-year projection, in addition to existing and planned future uses of the water supply.

In addition, per **MM 4.17-1**, the project proponent would be required to obtain written documentation demonstrating sufficient water supplies have been secured and would be available to serve project

construction, operation, and decommissioning based on the project's water demand, as identified in the project WSA, during normal, single-dry, and multiple-dry years. Therefore, because the identified potential water sources have sufficient supplies to meet the project's demand and with the implementation of **MM 4.17-1**, impacts would be less than significant.

SCE Whirlwind Substation Upgrades

The construction activities would require water for activities such as dust suppression and soil compaction. Total water usage during construction, operation, and decommissioning for the SCE Whirlwind Substation upgrades is included in the analysis above. Impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.17-1** would be required.

MM 4.17-1: Prior to the issuance of any grading or building permit, the project proponent shall provide written documentation to the Kern County Planning and Natural Resources Department demonstrating sufficient water supplies have been secured and will be available to serve project construction, operation, and decommissioning. Documentation shall demonstrate that the identified water source(s) are capable of meeting the project's projected water demand, as identified in the project Water Supply Assessment, during normal, single-dry, and multiple-dry years.

Documentation may include one or more of the following:

a. A will serve letter or service agreement from a retail water provider or water purveyor, demonstrating that adequate water supplies are available to serve the project.

b. Documentation from the applicable groundwater authority, Watermaster, or other regulatory agency, demonstrating that a new well drilled and developed within the project boundaries, as permitted by Kern County Public Health, is authorized and sufficient to serve the water demand for the life of the project, including any applicable production rights, pumping allocations, or approvals and identifying the annual amount of groundwater pumping allowed per year.

c. A water supply agreement with an off-site provider identifying the source, quantity, duration, and delivery method of water available to the project.

d. Other documentation acceptable by the Kern County Planning and Natural Resources Department demonstrating that available water supply has been secured for the life of the project.

Level of Significance

Impacts would be less than significant.

Impact 4.17-3: Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

The project is not expected to generate a significant amount of wastewater. No off-site sewage or disposal connections to a municipal sewer system exist or are proposed for operations. As discussed, sanitary facilities during construction and decommissioning would be provided via portable self-contained units maintained by a licensed contractor. Wastewater from the portable toilet facilities and portable hand-washing facilities would be disposed of at an approved off-site disposal site. The Kern County Public Health Services Department/Environmental Health Services Division is responsible for monitoring the use of portable toilet facilities, and the project proponent would be required to provide documentation of a portable toilet pumping contract.

During project operations, wastewater would be generated through facilities inside each of the operation and maintenance buildings. A septic tank and leach field would be provided for each operation and maintenance building to manage sanitary waste. In the unforeseen event that a leach field is infeasible or impractical, sanitary waste would be held in tanks and removed from the project site periodically by a licensed contractor. The septic system would be constructed in accordance with Kern County Department of Public Health requirements. Other than sanitary wastewater, the project does not include any routine activity that would generate wastewater. Therefore, there would be no impact to wastewater treatment providers and their capacity to serve the project.

SCE Whirlwind Substation Upgrades

It is expected that the work activities associated with the SCE Whirlwind Substation upgrades would involve the use of portable toilet facilities and portable hand-washing facilities. The wastewater from these portable facilities would be maintained by a licensed contractor. The SCE interconnection facilities at the Whirlwind Substation and the SCE tie-lines would be unmanned; therefore, there would be no impacts to wastewater treatment providers and their capacity to serve the SCE facilities.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact.

Impact 4.17-4: The project would generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

Construction and Decommissioning

It is anticipated the project would not generate substantial amounts of nonrecyclable waste during construction or decommissioning. Currently, the project site is largely undeveloped and therefore would not require demolition or removal of large debris. Waste generated from construction would be short-term and would be mostly reusable or recyclable packaging and shipping material, such as wood pallets and crates, cardboard, and plastic. Materials brought to the project site would be used to construct facilities, and

few residual materials are expected. Common construction waste may include paper, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation wastes.

At the end of the project's anticipated operational life of up to approximately 35 years, the project proponent would determine whether the project site should be decommissioned and deconstructed or if it would seek an extension of its operation and the appropriate permitting pathways. If any portion of the project site is decommissioned, the project components, including the BESS facility, would be removed from the project site to facilitate conversion of the site to other uses in accordance with the applicable land use regulations in effect at that time. Equipment would be repurposed off-site, recycled, or disposed of in a landfill, as appropriate under State regulations. Most material generated would be recyclable metals, concrete, and electrical equipment. Some or most battery components would be recycled, and other components may be disposed of as hazardous waste, depending on available technology. Lithium-ion and lithium-iron phosphate batteries and their constituent parts would likely be recycled. Some batteries may have the capacity to be reused at the end of the operating life of the project. Without any waste diversion or recycling strategies, project construction and decommissioning may generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure, leading to a potentially significant impact.

Recycling would be the preferred management method whenever practical for all types of waste. Further, implementation of **MM 4.1-1**, a Maintenance, Trash Abatement, and Pest Management Program would be prepared and submitted to the County for review and approval in accordance with CALGreen (see **Section 4.1,** *Aesthetics and Visual Resources*). The Maintenance, Trash Abatement, and Pest Management Program would identify waste management practices to be used during project construction, including materials proposed for diversion, on-site sorting procedures, designated diversion and recycling facilities, and calculated diversion rates demonstrating compliance with the CALGreen requirement to divert a minimum of 65 percent of nonhazardous construction and demolition waste from landfill disposal.

Nonhazardous construction refuse and solid waste would either be collected and recycled or disposed of at a local landfill. The Mojave-Rosamond Landfill (approximately 19 miles northeast of the project site) is the closest landfill to the project site and, therefore, would be the most likely recipient of its solid waste. The Mojave-Rosamond Landfill has a remaining capacity of 70,028,492 cubic yards with an anticipated cease-operation date of 2132 (CalRecycle 2026a). The Mojave-Rosamond Landfill is a Class III landfill and, therefore, accepts waste from construction and demolition as well as industrial sources; but it does not accept hazardous waste, hot ashes, or liquids of any kind. In addition, with the implementation of **MM 4.17-2**, an on-site waste disposal and recycling coordinator would facilitate recycling of all construction and decommissioning waste to the greatest extent feasible through coordination with contractors, local waste haulers, other facilities, and the Kern County Public Works Department – Solid Waste Division. The coordinator would also ensure the separation and proper disposal of recyclable materials and solid waste. Therefore, construction and decommissioning impacts of the project on existing landfills are anticipated to be less than significant.

Operation

During operation, limited solid waste would be generated. The operations and maintenance buildings would include up to six employees, and the only waste generated on-site would result from office and maintenance activities, such as small quantities of household-type waste from maintenance crews. Small quantities of packaging and shipping materials, such as wood, cardboard, paper, and plastic, would be generated from occasional replacement or maintenance of equipment. The Mojave-Rosamond Recycling and Sanitary Landfill would continue to operate through the year 2132 and is expected to continue to serve the project

throughout the rest of its operation. The implementation of **MM 4.17-2** would further reduce the less-than-significant impact by designating a storage area for waste and recycling materials throughout operation and ensuring solid waste is recycled to the greatest extent feasible.

The project would occasionally generate spent batteries due to the loss of storage capacity over time with usage. After several years of project operation, augmentation batteries and equipment would need to be installed to maintain the required energy storage capacity. Spent batteries would be returned to the battery manufacturer for recycling. Also, other equipment may occasionally require replacement and would be removed from the site and recycled or disposed of in accordance with applicable local and State regulations for waste management.

There is no anticipated routine storage of hazardous materials; however, some on-site equipment may require hazardous materials to function. These include mineral oil contained in transformers, pressurized gas and coolant in climate control equipment, and backup generator fuel. Additionally, small quantities of hazardous waste, such as aerosol cans or used rags, may be generated from some maintenance activities. All on-site hazardous materials that exceed California Hazardous Materials Business Plan reporting requirements would be required to be reported to the online California Environmental Reporting System (CERS), including quantities, locations, largest containers, hazardous characteristics, and emergency response planning, and, if generated, would be managed in accordance with California Code of Regulations Title 22 (22 CCR) requirements. Any damaged or spent lithium-ion batteries would be returned to the battery manufacturer for recycling. Electronic waste would be managed as Universal Waste in accordance with 22 CCR.

Solid waste generated during operations related to routine maintenance would be minimal, and the implementation of **MM 4.17-2** would further ensure that waste would be diverted from the Mojave-Rosamond Landfill and into the recycling center by designating a storage area for recycled materials. The disposal of all hazardous materials would adhere to California Hazardous Materials Business Plan reporting requirements, and 22 CR, including electronic waste. Therefore, impacts would be less than significant.

SCE Whirlwind Substation Upgrades

Solid waste resulting from the work activities associated with the SCE Whirlwind Substation upgrades would likely be disposed of at the same landfill as described above for the project. The SCE Whirlwind Substation upgrades are not anticipated to generate substantial amounts of non-recyclable waste. Materials would be recycled where feasible, with remaining waste disposed of at the Mojave-Rosamond Recycling and Sanitary Landfill, in compliance with all applicable regulations. Common construction waste may include metals, masonry, plastic pipes, rocks, dirt, cardboard, or green waste related to land development. Any hazardous waste would be disposed of at an approved facility. As discussed above, the Mojave-Rosamond Recycling and Sanitary Landfill is expected to be in operation through the year 2132 and is anticipated to serve as a solid waste disposal location. The SCE Whirlwind Substation upgrades are not expected to 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. Impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.1-1** (see **Section 4.1**, *Aesthetics and Visual Resources*) and **MM 4.17-2** would be required.

MM 4.17-2: Prior to issuance of a grading or building permit, an on-site Waste Disposal and Recycling Coordinator shall be designated by the project proponent/operator to facilitate waste disposal and recycling as part of the Maintenance, Trash Abatement, and Pest Management Program. The provisions listed below shall apply to the project:

a. The project proponent/operator shall provide a storage area (or areas) for waste and recyclable materials within the fenced project site that is clearly identified for waste and recycling. This area shall be maintained on the site during construction, operations and decommissioning.

b. During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible.

c. The Waste Disposal and Recycling Coordinator shall facilitate recycling of all construction and decommissioning waste through coordination with contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes.

d. The Waste Disposal and Recycling Coordinator shall coordinate with Kern County Public Works Department – Solid Waste Division the acceptance for disposal or recycling of construction and decommissioning waste prior to being transported to any public disposal facility.

e. The Waste Disposal and Recycling Coordinator shall ensure that materials transported to public disposal facilities for recycling shall be separated by material type so as not to be co-mingled or contaminated with waste material.

f. The Waste Disposal and 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.

g. Contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.17-5: The project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

The project would generate solid waste during construction, operation, and decommissioning. Common construction waste may include paper, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation wastes. The 1989 California Integrated Waste Management Act (AB 939) requires the County to attain specific waste diversion goals. In addition, 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. 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. In addition, as part of

compliance with CALGreen requirements, the County implements the following construction waste diversion requirements:

- Submitting a Construction Waste Management Plan
- Recycling and/or reusing a minimum of 65 percent of construction and demolition waste
- Recycling or reusing 100 percent of tree stumps, rocks, and associated vegetation and soils resulting from land clearing

Furthermore, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the project design. Without the implementation of mitigation measures, the project would result in potentially significant impacts. Therefore, **MM 4.1-1** and **MM 4.17-2** would be implemented to ensure compliance with all waste diversion and recycling requirements by requiring recycling during construction, operation, and decommissioning of the project. The project would be required to comply with all federal, state, and local statutes and regulations related to the handling and disposal of solid waste. Therefore, impacts would be less than significant.

SCE Whirlwind Substation Upgrades

Similar to other aspects of the project, the SCE Whirlwind Substation upgrades would generate solid waste. Common construction waste may include metals, masonry, plastic pipes, rocks, dirt, cardboard, or green waste related to land development. Waste from the SCE Whirlwind Substation upgrades would also be subject to the waste diversion and recycling requirements of AB 341 and AB 939. SCE would comply with applicable State and federal laws and regulations during construction, including those regulations that relate to construction waste recycling and disposal. SCE would also implement any existing BMPs and adopted minimization measures. Impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.1-1** (see **Section 4.1**, *Aesthetics and Visual Resources*) and **MM 4.17-2** would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

4.17.5 Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for cumulative analysis of impacts on water supply and wastewater includes projects that would impact the AVGB. The geographic scope of analysis for stormwater drainage, electricity, natural gas, telecommunications, and solid waste disposal includes projects that would likely rely on the same facilities and infrastructure. Cumulative projects listed in **Table 3-4**, *Cumulative Projects List*, in **Chapter 3**, *Project Description*, would likely rely on the same sources, facilities, or infrastructure system of utilities as those of the project. Impacts of the project would be cumulatively considerable if the incremental effects, when combined with other projects, would result in a significant cumulative effect. Physical impacts on public services, utilities, and service systems are usually associated with population in-migration and growth in an area, which increases the demand for a particular service, leading to the need for expanded or

new facilities. There is little to no growth associated with the project and nearby projects, thereby limiting the potential to contribute to demand for a particular service. As described above, the project would place minimal demands on water, wastewater, stormwater drainage, electricity, telecommunications, and solid waste disposal, and the project would place no demands on natural gas.

Water

Several other projects are proposed in the Antelope Valley that would impact the existing water supply, which is derived almost entirely from the AVGB. 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 adjudication of the AVGB, all projects relying on water from the AVGB would be required to obtain water from water purveyors that have existing water rights or would be required to apply for new water rights from the Antelope Valley Watermaster, in accordance with the Adjudication and safe yield. Additionally, the FVGB is not adjudicated and is designated by DWR as low priority, and would have sufficient groundwater available in the FVGB to satisfy the project demand and all other groundwater uses. AVEK also has sufficient water supplies to serve current and future water demands within its service area. The project and cumulative projects would be required to obtain written documentation demonstrating sufficient water supplies have been secured for the projects, as outlined in **MM 4.17**-1 for the project. Therefore, cumulative impacts related to water supply and facilities would be less than significant.

Wastewater Treatment

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 by a licensed contractor. An independent septic system would be built at each of the three operation and maintenance buildings. Other than sanitary wastewater, the project does not include any routine activity that would generate wastewater. No off-site sewage or disposal connections to a municipal sewer system exist or are proposed. Other projects may allow developers to propose the construction of buildings that require wastewater infrastructure. However, these projects would be required to adhere to all federal, State, and local regulations related to wastewater treatment and services. Applicable mitigation measures would also be required as part of these other projects to ensure sufficient wastewater infrastructure is available. Therefore, the project's contribution to cumulative impacts on a regional wastewater treatment facility or the capacity of said facilities would not be cumulatively considerable.

Stormwater Drainage

The project would be required to adhere to Kern County Public Works Department stormwater requirements, which include measures to address stormwater controls on both the management of runoff volume and water quality. The project proposes several retention and detention basins to control stormwater flows and discharges. Consistent with the requirements of the NPDES General Construction Permit, the project would prepare and implement a SWPPP to minimize construction-related pollutant discharge. In addition, a Water Quality Management Plan would be prepared to identify and incorporate BMPs for runoff control, as required by **MM 4.10-1** (see **Section 4.10**, *Hydrology and Water Quality*). Implementation of **MM 4.10-2** would require the preparation of a final hydrologic study and drainage plan to evaluate and identify any necessary design features to adequately control on-site and off-site stormwater runoff.

Cumulative impacts on stormwater drainage resulting from other projects in the geographic scope would be subject to the same regulatory requirements. Each project would be required to prepare a hydrologic study and final drainage plan to evaluate and mitigate potential increases in stormwater runoff associated with their respective ground disturbances. As determined necessary, these other projects would implement stormwater control measures to avoid substantial increases in runoff. Additionally, other projects would be required to comply with applicable County requirements, including the implementation of BMPs, adherence to the NPDES General Construction Permit, and their respective SWPPPs, as applicable.

Because other projects would be required to minimize an increase in stormwater runoff through compliance with these regulatory requirements, the project's contribution to cumulative impacts on stormwater drainage facilities would not be cumulatively considerable.

Solid Waste

Materials generated throughout the project's life would be recycled to the greatest extent feasible, with the remaining waste disposed of at appropriate landfills in compliance with all applicable regulations. Materials brought to the project site would be used for the construction of project facilities. Nonhazardous construction debris and solid waste would be collected for recycling, or disposed of at the Mojave-Rosamond Landfill. The Mojave-Rosamond Landfill, which is expected to operate until 2132, would have sufficient capacity to accommodate solid waste generated during construction, operation, and decommissioning of the project.

While cumulative increases in waste generation could result in the Mojave-Rosamond Landfill capacity being reached sooner than currently projected, all projects would be required to comply with applicable federal, State, and local regulations governing solid waste reduction, diversion, and disposal. To further ensure proper waste diversion and disposal, **MM 4.1-1** and **MM 4.17-2** would be implemented. **MM 4.1-1** requires that a Maintenance, Trash Abatement, and Pest Management Program be prepared for the project to identify waste management practices, including the identification of materials proposed for diversion, on-site sorting procedures, designated diversion and recycling facilities, and calculated diversion rates demonstrating compliance with the CALGreen requirements. In addition, with the implementation of **MM 4.17-2**, an on-site waste disposal and recycling coordinator would facilitate recycling of all construction and decommissioning waste to the greatest extent feasible through coordination with contractors, local waste haulers, other facilities, and the Kern County Public Works Department – Solid Waste Division. With the implementation of these mitigation measures, and in combination with regulatory compliance, the project's incremental contribution to cumulative impacts on landfill capacity would be less than cumulatively considerable.

Electricity

Electricity is not expected to be consumed in large quantities during any phase of the project. Construction equipment and vehicles are not expected to require electricity, but are rather diesel- or gas-powered. On-site power during project operation would be supplied via two station service transformers at each proposed collector substation. These station service transformers would provide stepped-down voltage power for on-site demands such as system controls, lighting, security systems, climate-controlled storage containers, and operation and maintenance building needs.

Other projects within the geographic scope of cumulative impacts analysis may require electricity to provide lighting and electrical equipment. Other projects would be expected to provide their own analysis regarding their expected electricity usage. As the project proposes to contribute a minimal amount of Kern

County's annual electricity demand, electricity use by the project would not result in a cumulatively considerable impact on electric power. The project, in combination with cumulative projects, would therefore not substantially contribute to a cumulative impact on electrical demand and facilities.

Natural Gas

No natural gas is proposed to be used in conjunction with the project. Therefore, the project would not contribute to a cumulatively considerable impact related to natural gas demand and facilities.

Telecommunications

The project would include the construction and operation of two on-site microwave communications towers to support remote communications with the CAISO and other outside parties. The project would not increase demand on telecommunication facilities such that new or expanded off-site infrastructure would be required. Further, the increased demand associated with other projects is expected to be within the planning forecasts of the affected telecommunications provider. The project would not contribute to a cumulatively considerable impact related to telecommunications facilities.

SCE Whirlwind Substation Upgrades

Water

SCE's work activities would require water for dust suppression, soil compaction, and grading. Water for drinking and sanitation would be minimal and provided via trucked deliveries or bottled water. Several other projects are proposed in the Antelope Valley that would impact the existing water supply, which is derived almost entirely from the AVGB. As provided above, projects relying on water from the AVGB would be required to obtain water from water purveyors that have existing water rights or would be required to apply for new water rights from the Antelope Valley Watermaster, in accordance with the Adjudication and safe yield. Additionally, the FVGB is not adjudicated and is designated by DWR as low priority, and there is sufficient groundwater available in the FVGB to satisfy the project demand and all other groundwater uses. AVEK also has sufficient water supplies to serve current and future water demands within its service area. Cumulative impacts would be less than significant.

Wastewater Treatment

Wastewater generated during construction would be collected in portable toilet facilities and disposed of at an approved facility by a licensed contractor. The SCE interconnection facilities at the Whirlwind Substation and the SCE tie-lines would be unmanned; therefore, they are not expected to result in the construction of additional restroom facilities or require new or relocated wastewater treatment facilities. No off-site sewage or disposal connections to a municipal sewer system exist or are proposed. Other projects may or may not propose operation and maintenance buildings that would require the installation of a septic system. Cumulative impacts would be less than significant.

Stormwater Drainage

Proposed construction activities associated with the SCE Whirlwind Substation and tie-lines have the potential to degrade surface or groundwater quality. SCE would comply with existing adopted BMPs and minimization measures, along with all applicable federal and state laws and regulations during construction, including those regulations that relate to stormwater drainage. Cumulative impacts on stormwater drainage

resulting from other projects in the geographic scope would be subject to all applicable regulatory requirements. Other projects would be required to prepare a hydrologic study and final drainage plan to evaluate and mitigate potential increases in stormwater runoff, and would implement stormwater control measures to avoid a substantial increase in runoff. Cumulative impacts would be less than significant.

Solid Waste

Similar to the project, solid waste generated during the construction and operation of the SCE Whirlwind Upgrades would likely be collected for recycling or disposed of at the Mojave-Rosamond Landfill, which is expected to operate until 2132. While cumulative increases in waste generation could result in the landfill's capacity, all projects would be required to comply with applicable federal, State, and local regulations governing solid waste reduction, diversion, and disposal. Cumulative impacts would be less than significant.

Electricity

The SCE Whirlwind Substation upgrades are not expected to consume large quantities of electricity, primarily because construction equipment and vehicles operate on diesel- or gas-powered energy. During operations, the electrical power necessary for the tie-lines between the POCOs and the SCE Whirlwind Substation would be supplied from the SCE Whirlwind Substation. The SCE Whirlwind Substation would utilize the energy generated. Cumulative impacts would be less than significant.

Natural Gas

No natural gas is proposed to be used in conjunction with the SCE Whirlwind Substation upgrades.

Telecommunications

Telecommunication services connecting the existing communications room at the SCE Whirlwind to the on-site collector substations would be needed. No off-site telecommunication connections would be required. The SCE Whirlwind Substation upgrades would not increase demand for telecommunication facilities such that new or expanded off-site infrastructure would be required. Further, the increased demand associated with other projects is expected to be within the planning forecasts of the affected telecommunications provider. Cumulative impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.1-1** (see **Section 4.1**, *Aesthetics and Visual Resources*), **MM 4.10-1**, **MM 4.10-2** (see **Section 4.10,** *Hydrology and Water Quality*), and **MM 4.17-1** and **MM 4.17-2** would be required.

Level of Significance after Mitigation

Cumulative impacts would be less than significant.

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Section 4.18
Wildfire

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Section 4.18
Wildfire

4.18.1 Introduction

This section of the Draft Environmental Impact Report (EIR) describes the affected environment and regulatory setting for wildfire. It also discusses potential wildfire impacts that could result from implementing the project and includes mitigation measures to reduce them, if applicable. This section is based on the project plans and California Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard Severity Zone (FHSZ) Maps.

4.18.2 Environmental Setting

Site Characteristics and Fire Environment

The project site is at the northern edge of the Antelope Valley in Kern County, approximately 8 miles west of the community of Rosamond. The project site is mostly undeveloped except for high-voltage transmission infrastructure, communications infrastructure, and unpaved roads. Existing land uses in the project vicinity generally include solar and wind energy generation facilities, communications infrastructure, scattered residences, agricultural land, and undeveloped land. The Southern California Edison (SCE) Whirlwind Substation is located directly south of the project site.

Fire Hazard Areas

The Kern County Fire Department (KCFD) 2025 Strategic Fire Plan identifies federal, State, and Local Responsibility Areas across the entire county to facilitate coordination of fire protection services. According to the CAL FIRE FHSZ Maps (see **Figure 4.14-1**, *Fire Hazard Severity Zones*, found in **Section 4.14**, *Public Services*), the project site is within a Local Responsibility Area (LRA) and is classified as a Moderate FHSZ. Portions of the tie-line corridors and SCE Whirlwind Substation fall within the LRA and Moderate FHSZ, while other areas are within the LRA but outside a designated FHSZ. The nearest Very High FHSZ is situated approximately 5 miles southeast of the project site. Based on these designations, the project site is located outside areas identified by CAL FIRE as having substantial or very high wildfire hazard potential.

Slope/Terrain

Terrain influences fire hazards by affecting fire spread rates. Typically, steep terrain results in faster fire spread upslopes and slower spread downslopes. Terrain features that form a funneling effect on the landscape—such as chimneys, chutes, or saddles—can result in especially intense fire behavior, including faster spread and higher intensity. Conversely, flat terrain tends to have little effect on fire spread, resulting in fires that are driven by vegetation and wind.

The project site is on relatively flat land that gently slopes from the northwest to the southeast. Topography on-site decreases gradually from 2,827 feet down to 2,764 feet above mean sea level. The area generally has low relief without significant topographic features.

Climate/Weather

The project site is characterized by a warm-summer Mediterranean climate, with temperatures averaging between 45 and 80 °F. The average maximum temperature in the project vicinity, based on temperature data recorded at the Fairmont, California, weather station, for the period from 1906 to 2026, ranges from 54 to 91 °F, and the average minimum temperature ranges from 36 to 68 °F. Maximum temperatures in the summer typically reach the low-100s °F, and minimum temperatures in the winter reach the mid-20s °F.

Fire History

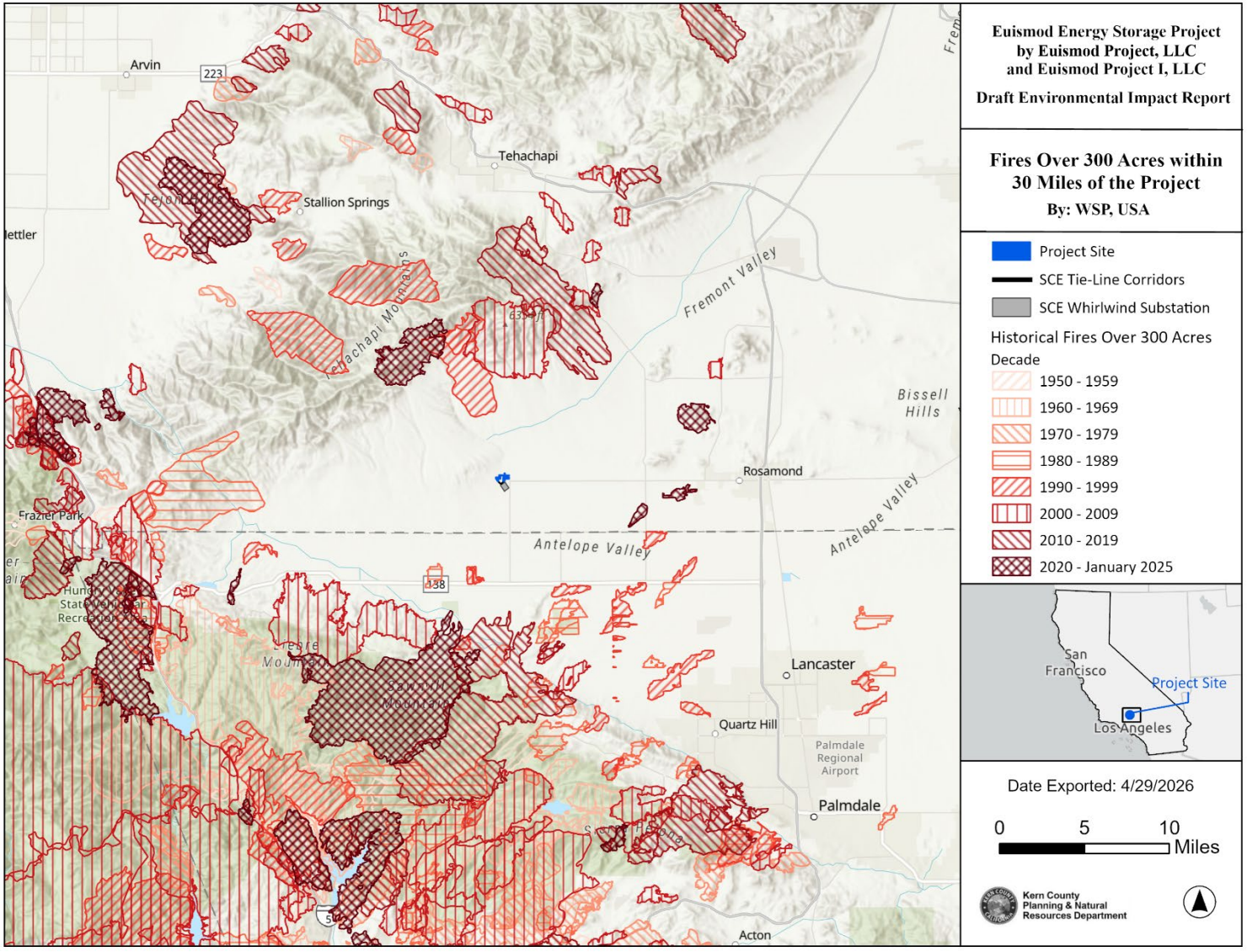
Fire history information can provide an understanding of fire frequency, fire type, most vulnerable project areas, and significant ignition sources. Fire history represented in this section uses CAL FIRE's Incidents Search Tool (CAL FIRE 2026a) and Fire and Resource Assessment Program (FRAP) database (CAL FIRE 2025a). Since 2015, 154 fires have occurred in Kern County, and 101 wildfires have occurred in Los Angeles County, primarily within the mountains to the west/northwest of the project site and south/southwest of the project site, respectively. No fires have burned across the project site or within the surrounding area (including the SCE Whirlwind Substation and location of proposed tie-lines) within this timeframe. According to the National Wildfire Coordinating Group (NWCG), a national interagency group comprising 12 member agencies, a large fire is defined as a fire burning more than a specified area of land (that is, 300 acres), which is also the size threshold of a Class E Fire. Fire classes range from Class A at 0.25-acre or less to Class G at 5,000 acres or more (NWCG 2025). Fires larger than 300 acres and documented within 30 miles of the project site are shown in **Figure 4.18-1**, *Fires Over 300 Acres Within 30 Miles of the Project Site*, and **Table 4.18-1**, *Fires Over 300 Acres Within 30 Miles of the Project Site by Date*, organized by date (CAL FIRE 2026a).

TABLE 4.18-1: FIRES OVER 300 ACRES WITHIN 30 MILES OF THE PROJECT SITE BY DATE

Name	Start Date	Counties	Acres Burned	Approximate Distance (Miles) from Project Site
Turbine Fire	8/12/2024	Kern	329	11 miles northeast
Rancho Fire	7/13/2024	Kern	9,950	25 miles northwest
White Fire	7/13/2024	Kern	5,646	7 miles northwest
Post Fire	6/15/2024	Los Angeles	15,563	22.7 miles southwest
Gaskell Fire	6/06/2024	Kern	403	8 miles east
West Fire	5/30/2024	Kern	1,575	11 miles northeast
Holiday Fire	5/25/2024	Kern	398	9 miles east
Agua Fire	7/25/2023	Los Angeles	421	29 miles south
District Fire	7/07/2023	Kern	1,044	26 miles west
Route Fire	8/31/2022	Los Angeles	5,208	24 miles southwest
Thunder Fire	6/22/2022	Kern	2,500	25 miles west
Hungry Fire	7/31/2021	Los Angeles	340	24 miles west
North Fire	4/28/2021	Los Angeles	650	29 miles southwest
Lake Fire	8/12/2020	Los Angeles	31,089	8 miles southwest
Soledad Fire	7/05/2020	Los Angeles	1,525	29 miles south
Rowher Fire	7/01/2020	Los Angeles	648	23 miles south

Source: CAL FIRE 2026a.

Figure 4.18-1: Fires Over 300 Acres Within 30 Miles of the Project Site



Vegetation (Fuels)

Fuels can include natural materials, such as dead tree leaves, twigs, branches, dead or live trees, brush, and dry grasses, as well as human-made structures. The on-site vegetation has experienced high levels of anthropogenic disturbance, such as trash and debris, unpaved roads supporting local utility facilities, and potential historic grazing.

Desert vegetation dominates the landscape of the project area and comprises creosote bush scrub (*Larrea tridentata*), cheesebush scrub (*Ambrosia salsola*), sweetbush (*Bebbia juncea*), Western Joshua Trees (*Yucca brevifolia*), California goldfields (*Lasthenia californica*), redstem stork's bill (*Erodium cicutarium*), Mediterranean grass (*Schismus barbatus*), red brome (*Bromus rubens*), cheatgrass (*Bromus tectorum*), Sisymbrium (*Sisymbrium sp.*), phacelias (*Phacelia sp.*), and others, as described in **Table 4.4-1**, *Plant Community and Land Cover Mapped Acreage within the Survey Area*, in **Section 4.4**, *Biological Resources*.

Fire Protection Facilities and Services

As discussed in **Section 4.14**, *Public Services*, the KCFD provides primary fire protection services, fire prevention, emergency medical, and rescue services to more than 900,000 people in incorporated and unincorporated areas of Kern County, operating 49 full-time fire stations. Fire Station No. 15 (Rosamond), located at 3219 35th West Street in Rosamond, is the closest station to the project site. The station is approximately 14 miles east of the project site. Other nearby stations include Fire Station No. 12 (Tehachapi), located at 800 South Curry Street; Fire Station No. 13 (Tehachapi), located at 21415 Reeves Street; and Fire Station No. 14 (Mojave), located at 1953 State Highway 58.

Regional Wildfire Conditions

Kern County encompasses the southern portion of the Central Valley floor and is bound to the west by the southern slopes of the coastal mountain ranges and to the east by the southern slopes of the eastern Sierra Nevada. Both mountain ranges are surrounded by and intermingled with areas highly susceptible to wildfires, such as steep, hilly, grassy, and wooded terrain. The mountainous terrain on the east and west sides of the Central Valley strongly influences both wildland fire behavior and fire suppression capabilities. Wind also represents a factor that influences the spread of wildfire, as fires spread faster, and burning embers are carried with the wind to adjacent exposed areas (Kern County 2022a).

California Public Utilities Commission-Designated Wildfire Hazard Zones

Pursuant to its Fire Safety Rulemaking, the California Public Utilities Commission (CPUC) mapped high fire threat areas where more stringent inspection, maintenance, vegetation clearance, and wire clearance requirements (as required by CPUC General Orders 95 and 165, as described below in Section 4.18.3, California Public Utilities Commission Requirements) would be implemented due to the elevated risk for powerline fires. The CPUC High Fire Threat District Map identifies three tiers of elevated risk for fires associated with utilities. As neither the tie-lines nor any other upgrades would be located within the Tier 2 High Fire Threat District area, SCE upgrades and tie-lines are not subject to the enhancement requirements detailed in CPUC General Orders 95 and 165 (CPUC 2025).

4.18.3 Regulatory Setting

Federal

National Electric Safety Code and American National Standards Institute Guidelines

A variety of line and tower clearance standards are used throughout the electric transmission industry. Nationally, most transmission line owners follow the National Electric Safety Code (NESC) rules, American National Standards Institute (ANSI) guidelines, or both, when managing vegetation around transmission system equipment. The NESC rules address electrical infrastructure safety, including transmission wire clearance standards, whereas the applicable ANSI code addresses the practice of pruning and removal of vegetation.

Federal Energy Regulatory Commission Standards

The Federal Energy Regulatory Commission (FERC) oversees the interconnection of bulk power systems in the United States. The bulk power system includes the vast network of generation, transmission, and a limited set of distribution system components necessary for operating and maintaining grid reliability. To maintain the reliability of the bulk power system, FERC reviews, approves, and enforces mandatory reliability standards developed by the North American Electric Reliability Corporation (NERC).

Amongst many of FERC's adopted requirements, utilities must adopt and maintain minimum clearance standards between vegetation and transmission high-voltage power lines based on voltage. In most cases, the minimum clearances required in state regulations are greater than the federal requirement. In California, for example, the State has adopted General Order 95 rather than the NERC Standards as the electric safety standard for the state; therefore, FERC standards are not discussed further (FERC 2023).

North American Electric Reliability Corporation Reliability Standards

In compliance with Section 215 of the Federal Power Act, NERC develops mandatory and enforceable reliability standards, such as emergency preparedness and operations; facilities design, connections, and maintenance; personnel performance, training, and qualifications; and protection and control. These standards would ensure reliable energy production as well as safe operation and maintenance practices.

National Fire Protection Association Codes, Standards, and Guides

National Fire Protection Association (NFPA) codes, standards, recommended practices, and guides are developed through a consensus standards development process approved by ANSI. NFPA standards are recommended guidelines and nationally accepted best practices in fire protection, but they are not laws or codes unless adopted or referenced as such by the California Fire Code (CFC) or the local fire agency. Kern County (County) has adopted the CFC, which applies and utilizes the International Fire Code and National Fire Code set forth by the NFPA to regulate fire safety (Kern County 2022b).

NFPA Standard 855, Standard for the Installation of Stationary Energy Storage Systems, was created to address increased use of new technologies in modern energy storage systems (ESS) and the fire hazards associated with them. The NFPA standardizes criteria for fire protection of ESS installations based on the technology used in the ESS, environmental setting, size and separation of ESS installations, and in-place

fire suppression and control systems. It also considers ventilation, detection, signage, listings, and emergency operations responding to ESS emergencies (NFPA 2026).

State

California Department of Forestry and Fire Protection (CAL FIRE)

Established in 1885, and elevated to departmental status in 1977, the Division of Forestry forms the cornerstone of CAL FIRE, which is tasked with serving and safeguarding the people and protecting the property and resources of California. Charged with protecting over 31 million acres of California's privately owned wildlands, CAL FIRE responds to an average of over 550,000 emergencies each year. In addition to wildland fires, CAL FIRE plans responses to other types of emergencies, including medical aids, hazardous material spills, search and rescue missions, and floods. Through contracts with local government, CAL FIRE provides emergency services in 36 of California's 58 counties (CAL FIRE 2024a).

CAL FIRE is responsible for providing fire protection, developing regulations, and issuing fire-safe clearances for all State Responsibility Area (SRA) lands. SRA lands are defined based on land ownership, population density, and land use. These lands are a major source of wood, water, forage, wildlife, biological diversity, open space, recreation, and other values to the people of California. CAL FIRE does not have responsibility for LRAs, which typically include densely populated areas, incorporated cities, agricultural lands, and lands administered by the federal government (FRAs). Instead, local governments are responsible for providing fire protection in LRAs and may provide structural and supplemental wildland fire protection in SRAs (California Open Data Portal 2026, BOF 2026).

CAL FIRE is required to rate FHSZs for wildfire using three categories: Moderate, High, and Very High. These categories are based on fuel loading, slope, fire weather, and other relevant factors, including areas where the Office of the State Fire Marshal has identified winds as a major cause of wildfire spread. FHSZs reflect variations in fire behavior and exposure and are used to develop permanent engineering mitigations associated with development in fire hazard areas (CAL FIRE 2024b).

Classification of a wildland zone as Moderate, High, or Very High Fire Hazard is based on the average hazard across the area included in the zone, which has a minimum size of 200 acres. In wildlands, hazard is a function of modeled flame length under the worst conditions and annual burn probability. Both of these factors generally increase with increasing hazard level, but there may be instances where one value is Very High, and the other is low, pushing the overall hazard into a more intermediate ranking. On average, both modeled flame length and burn probability increase by roughly 40-60% between hazard classes (CAL FIRE 2024b).

Strategic Fire Plan for California

The 2024 Strategic Fire Plan for California outlines goals and objectives to achieve CAL FIRE's overall goals and objectives. The plan includes stakeholder contributions in identifying operational opportunities and key issues, as well as summarizing future strategies to drive improved fire protection operations. Goals of the plan include improving core capabilities, enhancing internal operations, ensuring health and safety, and building an engaged, motivated, and innovative workforce (CAL FIRE 2024a).

California Public Resources Code 4291-4299

California Public Resources Code (PRC) Section 4291-4299 et seq. requires anyone who owns, leases, controls, operates, or maintains a building or structure in an SRA must maintain defensible space of 100 feet from each side of the structure from brush, flammable vegetation, or combustible growth. 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 to manage fuels and not form a means of rapid fire transmission from other nearby vegetation to a structure. Additionally, the PRC outlines infraction fees, certification, and compliance procedures applicable to State and local building standards, including those described in subdivision (b) of Section 51189 of the Government Code.

Additionally, any person who owns, controls, operates, or maintains any electrical transmission or distribution line must maintain a firebreak clearing around and adjacent to any pole, tower, or conductors that carry electric current as specified in PRC Sections 4292 and 4293. Section 4292 also requires that a 10-foot area around the base of poles be cleared of all flammable vegetation.

California Fire Code 2022

The California Fire Code (CFC) (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 CFC also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the CFC 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 CFC 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 that are addressed include emergency and standby power systems, electrical equipment, and wiring and hazards. Chapter 33 (Fire Safety During Construction and Demolition) of the CFC 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 CFC also 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.

Chapter 12 (Energy Systems) of the CFC outlines specific and detailed requirements for electrical ESS. This chapter includes general commissioning, decommissioning, and operation and maintenance requirements for ESS. Specifically, this chapter specifies permit requirements, the preparation of a hazard mitigation analysis and a large-scale fire test, and actions for fire remediation. Chapter 12 also establishes standards for the design of ESS, signage to enhance fire safety and detection, fire suppression systems, vegetation control, and compliance requirements.

California Building Standards Code, Chapter 7A

Chapter 7A of the California Building Standards Code incorporates by adoption the 2024 International Wildland-Urban Interface Code with necessary California amendments. The purpose is to establish minimum requirements to reduce the likelihood of life and property loss due to a wildfire through the use of performance and prescriptive requirements for construction and development in all FHSZs in SRAs, and LRAs designated as Very High and High FHSZs. 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.

California Building Code, Section 608

Section 608 of the California Building Code includes requirements for battery energy storage systems (BESS) greater than 20 kilowatt-hours. Section 608 includes requirements for construction documents, seismic and structural design, vehicle impact protection, location and spacing between batteries, egress, security, and fire suppression and detection systems.

Power Line Fire Prevention Field Guide 2021 Edition

The Power Line Fire Prevention Field Guide outlines procedures to minimize the risk of wildfire caused by electrical power lines and equipment. CAL FIRE, the State's three investor-owned utilities—Pacific Gas and Electric (PG&E), SCE, and San Diego Gas and Electric (SDG&E)—and other California electric utilities have mutually developed the comprehensive field guide for their personnel. In addition to the safety of the public, the guide details fire hazard reduction maintenance procedures for the safety of conductors and certain hardware.

Mutual Aid Agreements

The California Disaster and Civil Defense Master Mutual Aid Agreement, as provided by the California Emergency Services Act, provides statewide mutual aid between and among local jurisdictions and the State. The statewide mutual aid system exists to ensure that adequate resources, facilities, and other support is provided to jurisdictions whenever resources prove to be inadequate for a given situation. Each jurisdiction controls its own personnel and facilities but can give and receive help whenever needed. The KCFD participates in 14 mutual aid agreements with neighboring fire suppression organizations (KCFD 2026).

California Public Utilities Commission Requirements

General Order 95

The California Public Utilities Commission (CPUC) General Order 95 regulates all aspects of design, construction, operation, and maintenance of overhead electrical power lines and fire safety hazards for utilities subject to its jurisdiction (CPUC 2018).

In addition to updating various General Order 95 requirements, CPUC was required to create a High Fire-Threat District (HFTD) map delineating areas in the state where there is an elevated hazard for utility-associated wildfires to occur and spread rapidly, and where communities face an elevated risk from utility-associated wildfires. The map is separate from CAL FIRE's FHSZ map and focuses on areas of wildfire risk associated with utilities. The map is used by three electric utilities (PG&E, SCE, SDG&E) to determine where stricter fire-safety regulations apply. For example, increased vegetation management, inspection frequencies, and radial clearances. Additionally, electric investor-owned utilities must file an annual report that includes a fire-prevention plan containing specified information for their overhead electric facilities in the High Fire Threat District (CPUC 2017).

The CPUC HFTD Map includes three fire-threat areas, provided on two independent maps (CPUC 2025). Together, Zone 1, Tier 2, and Tier 3 constitute the High-Fire Threat District map.

- Tier 1: Tier 1 High-Hazard Zones (HHZs) identified on the U.S. Forest Service-CAL FIRE joint map of Tree Mortality HHZs ("Tree Mortality HHZ Map"). These areas are near communities, roads, and utility lines and pose a direct threat to public safety. They have been designated by State and local governments as being in the greatest need of dead tree removal (CAL FIRE 2026b). The majority of these areas overlap with HFTD Tier 2 or Tier 3. When overlap occurs, the established priority is that Tier 3 overwrites Tier 2, which overwrites Tier 1 HHZs.
- Tier 2: Areas with elevated wildfire risk from overhead utility power lines and facilities.
- Tier 3: Areas with extreme wildfire risk, where the highest likelihood of fire initiation and growth exists. This tier requires the most stringent utility regulations to reduce fire risks.

As presented in the CPUC's HFTD maps (see **Figure 4.18-2**, *CPUC High Fire-Threat District*), the project site, including the SCE Whirlwind Substation and tie-line corridors, is not within an HFTD (CPUC 2026).

General Orders 128 and 165

General Order 128 establishes rules governing the construction of underground electric and communication lines by utilities to promote and safeguard public health and safety. General Order 165 establishes requirements for the inspection of electric distribution and transmission facilities in rural, high fire threat areas in order to ensure safe and high-quality electrical service. These requirements are not applicable to electric distribution and transmission facilities contained within a substation. As mentioned above, the project site, proposed tie-lines, or SCE Whirlwind Substation are not designated as a High Fire Threat; therefore, General Order 165 enhanced requirements would not apply.

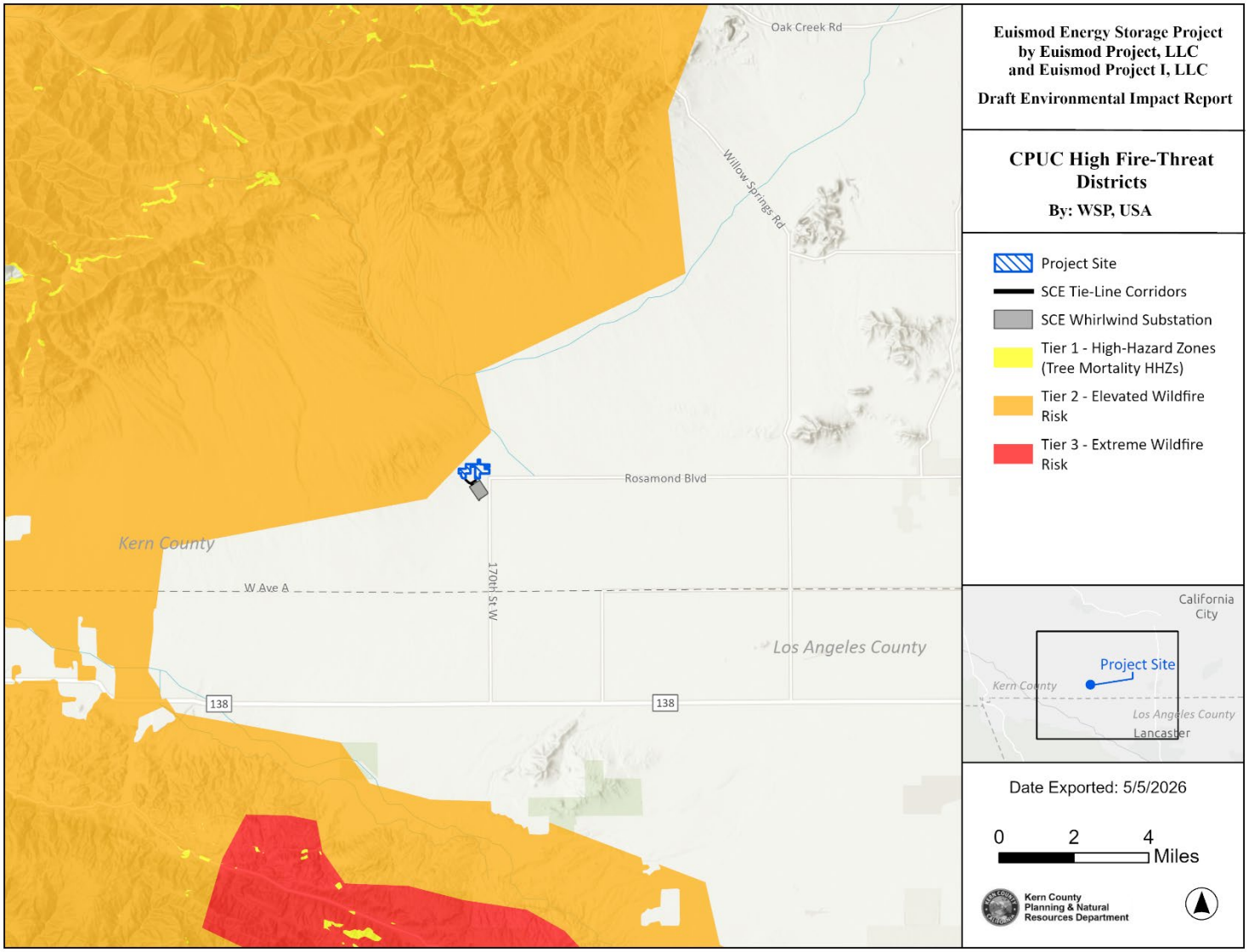
Public Utilities Code Section 761.3

Public Utilities Code Section 761.3 requires BESS facilities to establish safety and communication protocols for adequate emergency response. It requires BESS facilities to develop an Emergency Response Plan covering the facility's premises in coordination with local emergency response management agencies and first responders, as well as to establish notification and communication procedures. Facility owners must submit their plans to relevant city and county authorities.

Public Utilities Code Sections 8385 et seq. (Senate Bill 1028)

Chapter 6 (commencing with Section 8385) to Division 4.1 of the Public Utilities Code requires each electrical corporation to construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of catastrophic wildfire posed by those electrical lines and equipment; the bill makes a violation of these provisions by an electrical corporation a crime under State law. Further, the bill requires each electrical corporation to prepare an annual Wildfire Mitigation Plan (WMP) and submit it to the CPUC for review. The plan must include a statement of objectives, a description of preventive strategies and programs that are focused on minimizing risk associated with electric facilities, a description of the metrics that the electric corporation uses to evaluate the overall WMP performance, and assumptions that underlie the use of the metrics. SCE filed the third revision of the 2026-2028 WMP on January 22, 2026 (SCE 2026).

Figure 4.18-2: CPUC High Fire-Threat District



Senate Bill 901 (2018)

Senate Bill (SB) 901 added several requirements related to wildfire risk and management for utilities in California:

- Budget adjustments related to emergency response and readiness
- The creation of a CAL FIRE Wildfire Resilience Program
- Increasing the maximum penalties that can be issued by the CPUC to a public utility that fails to comply with CPUC requirements

Additionally, the legislation required that utilities prepare WMPs that include elements specified in the bill, such as the following:

1. A description of the preventive strategies and programs to be adopted by the electrical corporation to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks.
2. Protocols for disabling reclosers, such as circuit breakers that are used to isolate circuit segments when abnormal system conditions are detected, and deenergizing portions of the electrical distribution system that consider the associated impacts on public safety, as well as protocols related to mitigating the public safety impacts of those protocols, including impacts on critical first responders and on health and communication infrastructure.
3. Particular risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of the electrical corporation's service territory.

Assembly Bill 1054 (2019)

Assembly Bill 1054 established the California Wildfire Fund to provide a source of money to reimburse eligible claims arising from a covered wildfire caused by a utility company that participates in the fund. Electrical corporations must opt into the fund, make financial commitments, and maintain a safety certificate from the CPUC, among other conditions. Three utilities participate in the California Wildfire Fund, including SCE. In July 2019, SCE opted into the fund and contributed approximately $2.4 billion, representing SCE's initial contribution. SCE will contribute approximately $95 million to the fund on January 1 of each year for 10 years (SCE 2019).

SCE Wildfire Mitigation Plan

Pursuant to SB 901 and Public Utilities Code Sections 8385 et seq., SCE submitted its third revision of the 2026-2028 WMP to the California Office of Energy Infrastructure Safety on January 22, 2026. The WMP describes SCE's approach to assessing and mitigating wildfire risk and represents the continuous refinement, expansion, and improvement of wildfire and Public Safety Power Shutoffs mitigation efforts. The WMP is also characterized by a continued execution of SCE's Integrated Wildfire Mitigation Strategy, which further aligns grid hardening, inspections, and vegetation management activities. The WMP includes 20 activities with program targets to reduce the risk of wildfires and support service communities (SCE 2026).

California Office of the Attorney General Wildfire and CEQA Guidance

In October 2022, the California Office of the Attorney General (AG) issued guidance (2022 AG Guidance) outlining best practices for analyzing and mitigating wildfire impacts of development projects under the

California Environmental Quality Act (CEQA). The 2022 AG Guidance does not impose additional legal requirements on local governments, nor does it alter any applicable laws or regulations. It is intended to help local governments' evaluation and approval considerations for development projects in fire-prone areas, as well as help project design in a way that minimizes wildfire ignition and incorporates emergency access and evacuation measures. The 2022 AG Guidance recommends the following:

- **Baseline Conditions**—An EIR's discussion of existing environmental (baseline) conditions should include information about open space areas and habitats within the project area that may be fire-prone, a discussion of fire history and fuels on the project site, and existing available water supplies for firefighting.
- **Thresholds of Significance**—To identify when an increase in wildfire risk is considered a "significant impact" under CEQA, relevant factors include the following: (1) the project's impacts on ignition risk; (2) the likelihood of fire spread; and (3) the extent of exposure for existing and new residents, based on various fire scenarios. The 2022 AG Guidance notes that "wildfire ignitions are primarily human-caused in California."
- **Modeling**—Modeling fire scenarios means "quantifying" increased wildfire risks resulting from a project adding more people to wildfire-prone areas and assessing risks according to the threshold of significance, including fires that start in, near, or far from the project site and "extreme weather conditions that exacerbate fire spread." The 2022 AG Guidance states that a conclusion that conversion of wildland vegetation into paved development "reduces or does not increase wildfire risk" is "contrary to existing evidence" and cannot be used to avoid analyzing and modeling wildfire risk.

To qualitatively assess a project's impact on wildfire risk, the 2022 AG Guidance recommends considering the following relevant variables:

- **Project Density**—Project density influences how likely a fire is to start or spread and how likely it is that occupants will be in danger. The 2022 AG Guidance states that "Fire spread and structure loss is more likely to occur in low- to intermediate-density developments."
- **Location in the Landscape**—Where a project's structures are placed in the landscape relative to fire environment features (vegetation, topographical features, wind alignments) also influences wildfire risk. Terrain, including wind corridors or steep slopes, may increase risk while flatter terrain and natural fire breaks may reduce risk if the project is "strategically located" should be considered.
- **Water Supply and Infrastructure**—In addition to analyzing the water supply and infrastructure needed to address firefighting within the project site, the potential loss of water pressure or power during a fire should also be considered.

For potential measures to reduce wildfire risk, the 2022 AG Guidance recommends that wildfire reduction measures be tailored to the specifics of the project, the surrounding landscape, and nearby existing uses. The 2022 AG Guidance recommends lead agencies consider the following:

- Increasing residential density and consolidated project design, relying on higher density infill developments "as much as possible."
- Avoiding and minimizing low-density development patterns or "leapfrog-type" developments with undeveloped wildland between developed areas.

- Decreasing a project's "edge" or wildland interface area and creating buffer zones and defensible space measures within and adjacent to the project.
- Siting projects to maximize the role of low-flammability landscape features and limiting development along steep slopes and amidst rugged terrain.
- Undergrounding power lines.
- Upgrading building materials and installation techniques beyond applicable building code requirements to increase a structure's resistance to heat, flames, and embers (i.e., "fire hardening"), and requiring fire-hardened communication facilities (including internet) to the project site.
- Requiring onsite water supply and/or storage to augment ordinary supplies that may be lost during a wildfire.
- Limiting parking to ensure access roads are not clogged with parked vehicles.
- Placing development close to adequate emergency services, existing or planned ingress/egress, and designated evacuation routes.

In addition to evaluating the potential increased risk of ignition, the 2022 AG Guidance recommends that, for a project located in a fire-prone area, the lead agency should conduct evacuation modeling and planning and analyze the project's impact on evacuation and emergency access. This analysis is relative to the project's particular impacts and risks (e.g., higher-density infill projects within developed areas would require less detailed analysis than a new low-density development within a high wildfire risk area and/or surrounded by open space). Lead agencies should require evacuation modeling and planning to be developed prior to project approval in order to provide maximum flexibility in design modifications necessary to address wildfire risks and impacts. The 2022 AG Guidance recommends that evacuation modeling and analysis augment existing information when necessary, as follows:

- Evaluation of the capacity of roadways to accommodate project and community evacuation and simultaneous emergency access
- Assessment of the timing for evacuation
- Identification of alternative plans for evacuation
- Evaluation of the project's impacts on existing evacuation plans
- Consideration of the adequacy of emergency access, including the project's proximity to existing fire services and the capacity of existing services
- Traffic monitoring to quantify travel times under various likely scenarios

Local

Construction, operation, maintenance, and decommissioning of the project would be subject to policies contained within the general and specific plans, including the Kern County Zoning Ordinance and the Kern County Code of Building Regulations, which consist of goals, policies, and implementation measures related to wildfire. The goals, policies, and implementation measures in the Kern County General Plan (KCGP) and the Willow Springs Specific Plan related to wildfire that are applicable to the project are provided below.

Kern County General Plan

The policies, goals, and implementation measures in the KCGP for wildfire applicable to the project are provided below (Kern County 2009). The KCGP 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. Nonetheless, as stated in **Chapter 2**, *Introduction*, all policies, goals, and implementation measures in the KCGP are incorporated by reference (Kern County 2009).

Chapter 4: Safety Element

4.1 Introduction

Goals

Goal 1: Minimize injuries and loss of life and reduce property damage.

4.6 Wildland and Urban Fire

Policies

Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.

Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.

Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.

Implementation Measures

Measure A: Require that all development comply with the requirements of the KCFD or other appropriate agency regarding access, fire flows, and fire protection facilities.

Willow Springs Specific Plan

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan (Kern County 1992). The plan was adopted in 1992 and amended in 2008 as part of the Land Use, Open Space, and Conservation Element of the KCGP. Its goals, policies, and standards are compatible with those of the KCGP but are tailored to the particular needs of the expanded Willow Springs area. The goals, policies, and implementation measures in the Willow Springs Specific Plan for wildfire applicable to the project are provided below. The plan contains additional goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project; therefore, they are not listed below. Nonetheless, as stated in **Chapter 2**, *Introduction*, all goals, policies, and implementation measures in the Willow Springs Specific Plan are incorporated by reference.

Seismic/Safety Element

Goals

Goal 1: To promote a safe and healthful living environment.

Goal 2: Reduce the potential for property damage and injury by requiring development standards that adequately mitigate these environmental constraints where feasible to do so.

Goal 3: Protect human life and health.

Policies

Policy 7: Compliance with site-specific issues, goals, policies, and implementation measures contained in the Seismic/Safety Element of the KCGP.

Kern County Multi-Jurisdictional Hazard Mitigation Plan

The Multi-Jurisdictional Hazard Mitigation Plan evaluates the risks associated with seismic events, dam failure, severe weather, and wildfire on oil and gas facilities, among other hazards. The purpose of the 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 hazard impacts. The multi-jurisdictional plan includes Kern County and the incorporated municipalities of Arvin, Bakersfield, California City, Delano, Maricopa, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. Kern County also encompasses areas of land controlled by federal and State land management agencies, including CAL FIRE, the U.S. Bureau of Land Management, and the Bureau of Reclamation. While other levels of government have jurisdiction in these parts of Kern County, the hazard mitigation plan could also be used to document and coordinate mitigation efforts among federal, State, and local jurisdictions. The plan also covers 49 special districts that include school, recreation and park, water, community service, and other districts (Kern County 2021).

Kern County Fire Code

The County has adopted, by reference, portions of the California Building Standards Code and the Uniform Fire Code, with modifications and amendments, in Chapter 17.32 of the Kern County Code of Building Regulations (Kern County Fire Code). The Kern County Fire Code prescribes the minimum requirements necessary to establish a reasonable level of fire safety to safeguard the life, property, and public welfare from hazards created by fire, hazardous materials release, and/or explosion.

The Kern County Fire Code defines a hazardous fire area as any land that is covered with grass, grain, brush, or forest and situated (for example, in an inaccessible location) so that a fire originating upon such land would present an abnormally difficult job of suppression and would result in extensive, unusual damage through fire or the resulting erosion (Kern County 2022a).

Kern County Fire Department Unit Strategic Fire Plan

Last updated in 2025, the annual KCFD Unit Strategic Fire Plan assesses the countywide wildland fire situation. 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 areas of local fire risk. The plan is designed to be an assessment and planning tool only; it is the responsibility of those implementing projects to ensure that all environmental compliance and permitting processes are met, as necessary. 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. Utilizing computer-based data and geographic information systems provides a framework for comprehensive analysis of fire hazards, assets at risk, and the level of service to be included in the Wildland Fire Management Plan. Additionally, the KCFD Unit Strategic Fire Plan provides an annual report of unit accomplishments, which, in 2021, included completing a number of fuel reduction projects, establishing

the wildland fire facility "Camp 8," and establishing a seasonal type 6 engine within Battalion 8's service area (KCFD 2025).

The project site is located in KCFD Battalion 1 (Tehachapi), which covers the western Antelope Valley region of southeastern Kern County, including rural unincorporated areas west of Rosamond and north of the Los Angeles County line. Battalion 1 is characterized by dispersed development, extensive open space, and wildland–urban interface conditions influenced by desert shrubland fuels and seasonal wind patterns (KCFD 2025).

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 Kern 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 plan's target area. 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 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 (KCFD 2009).

Kern County Emergency Operations Plan

The Kern County Emergency Operations Plan establishes an emergency management organization and assigns functions and tasks consistent with California's Standardized Emergency Management System and the National Incident Management System. The purpose of the Kern County Emergency Operations Plan is to preserve life and property through planning, preparedness measures, and training (Kern County 2022b).

4.18.4 Impacts and Mitigation Measures

Methodology

Wildfire impacts are considered on the basis of landscape characteristics and the potential for the project to start or exacerbate wildfires. The project's potential impacts associated with wildfires have been evaluated using a variety of resources, including CAL FIRE maps showing FHSZs, fire history, project location maps, and project characteristics. Using the aforementioned resources and professional judgment, potential 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 SRAs or lands classified as very high FHSZ, and if the project would do the following:

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 Very High FHSZ or an SRA. The project site is located in a rural, sparsely developed area with a limited population. The project site is not located along an identified emergency evacuation route and is not identified in any adopted emergency evacuation plan, including the Kern County Emergency Operations Plan or Multi-Jurisdiction Hazard Mitigation Plan.

As described in **Section 4.15**, *Traffic and Transportation*, it is not expected that project-related traffic would cause a significant increase in congestion or the level of service at intersections nearby. Nevertheless, given the additional construction workers and large equipment required for project construction, the project could physically interfere with the implementation of emergency response plans, resulting in a potentially significant impact. **Mitigation Measure (MM) 4.15-1** requires the development of a Construction Traffic Control Plan for review and approval from the Kern County Public Works Department and the California Department of Transportation. The Construction Traffic Control Plan would be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and the Work Area Traffic Control Handbook. Topics that would be addressed in the Construction Traffic Control Plan include the following:

- Timing of deliveries
- Transportation routes
- Temporary signage along access routes
- Establishing procedures for coordinating with local emergency response agencies
- Maintaining access to adjacent properties
- Methods for minimizing construction traffic during the AM and PM peak hours

Implementation of the construction Traffic Control Plan would ensure that the potential for project-related construction traffic to interfere with vehicular circulation or emergency response along local roadways would be minimized, including during any times of emergency evacuation. Similarly, while project

decommissioning would increase the number of people on the project site, the increase would be temporary and negligible and, thus, would not substantially impair an adopted emergency response plan or emergency evacuation plan.

While the project would be operated remotely, some staff would be needed on-site during routine operations. It is anticipated that approximately two full-time employees would be needed for initial site operations. The site staffing needs could increase to approximately six full-time employees for routine operations following completion of construction in all three BESS areas. In addition, the project may require approximately four to six part-time employees for periodic maintenance needs. While the project would require on-site employees, it is not expected that the minimal number of employees would generate a substantial increase in traffic or interfere with vehicle circulation. Therefore, the project would not physically interfere with an adopted emergency response plan or emergency evacuation plan during operations.

The project would comply with applicable Kern County Fire Code and California Building Code requirements, including gate access, on-site road design, fire hydrants, safety equipment, and other fire safety requirements. The project would also comply with Public Utilities Code Section 761.3 and NFPA 855, which require the preparation of an Emergency Response Plan for KCFD's approval to ensure prompt, safe, and effective response in the event of an emergency. In accordance with NFPA 855, personnel responsible for operation, maintenance, repair, servicing, and emergency response would receive initial and annual refresher training on the procedures included in the Emergency Response Plan, and the project proponent would coordinate with KCFD to facilitate site-specific training. Fire suppression equipment specific to construction would be maintained on-site. Additionally, project construction and maintenance/operations would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials.

With the implementation of **MM 4.15-1**, the project would not conflict with the implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Impacts would therefore be less than significant.

SCE Whirlwind Substation Upgrades

The project includes two 220-kilovolt (kV) overhead tie-lines to the SCE Whirlwind Substation located on the adjacent parcels south of the project site. SCE's work activities outside of the SCE Whirlwind Substation, including tie-line access clearing, installing telecommunications lines and tie-line support poles or towers, stringing overhead conductors, and operating and maintaining tie-lines to the Point of Change of Ownership (POCO), would disturb all land within a 100-foot-wide corridor centered on each of the offsite tie-line alignments. Within the existing SCE Whirlwind Substation, each tie-line would require the installation of facilities for a new 220 kV switch rack and line positions to terminate the tie-lines and telecommunications infrastructure. For a detailed description of the SCE Whirlwind Substation improvements, see **Chapter 3.0**, *Project Description*.

Similar to the project site, the SCE Whirlwind Substation and tie-line corridors are located in a Moderate FHSZ and LRA. Construction, operation, and decommissioning of the SCE interconnection facilities would not require closure of adjoining roadways or generate traffic that would interfere with emergency response or evacuation, as construction equipment would remain on-site and operation would be unmanned. Access for operations and emergency response would adhere to all applicable Kern County regulations. Therefore,

implementation of the SCE interconnection facilities would not substantially impair an adopted emergency response or evacuation plan. Impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.15-1** (see **Section 4.15**, *Transportation*) would be required.

Level of Significance

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 when compared to flat conditions. Elevations across the project site range from approximately 2,764 to 2,827 feet above mean sea level. The average wind speed in the area is 11.3 miles per hour, which would be considered a gentle breeze according to the National Weather Service (NWS n.d.). In addition, the landscape of the project area consists primarily of sparse vegetation with little potential for fuel buildup and scattered residences, entailing three potential residences within a quarter-mile of the project site.

The project site's flat terrain and average wind speed are not likely to contribute to fire spread, resulting in fires that are driven by vegetation and wind. Furthermore, the project site is within an LRA and is classified as Moderate FHSZ, with the nearest Very High FHSZ located approximately 5 miles southeast of the project site. Thus, it is unlikely that the spread of wildfire would be exacerbated due to project terrain, wind, and/or vegetation.

Construction and Decommissioning

As described in **Chapter 3**, *Project Description*, it is expected that an average of approximately 95 field construction workers, with up to 150 field construction workers during peak construction periods, would be required during construction of the project. The presence of construction workers would be temporary, and the project would be built in up to two distinct phases over the course of approximately two years. Decommissioning is anticipated to occur over an approximately 12-month period.

Site preparation includes grubbing, grading, and clearing of vegetation that could interfere with project construction. While the initial removal of vegetation reduces fuel build-up, without implementing a proper revegetation plan, naturally occurring vegetation regrowth could serve as fuel for ignition, leading to a potentially significant impact. Construction activities would also temporarily introduce ignition sources from vehicles, heavy equipment, and spark- or heat-generating tools. Therefore, the project would implement **MM 4.1-3**, requiring the project proponent/operator to 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 Landscape Revegetation and Restoration Plan would require that all on-site vegetation or groundcover be continuously maintained by the project operator to maintain fire safety requirements (see **Section 4.1**, *Aesthetics*). Decommissioning would involve the use of heavy equipment similar to that used for construction, although likely with a generally smaller equipment fleet.

Project construction and decommissioning would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, cleanup

of spills of flammable materials, and vegetation management. While the project would increase the potential sources of fire hazards, all construction and decommissioning activities would comply with applicable wildfire management plans and policies established by CAL FIRE and the KCFD, and comply with the NFPA 70E standards for hot electrical work. The project proponent's engineering, procurement, and construction contractor would implement worker safety measures and a project-specific hazardous materials business plan, as required by **MM 4.9-1** (see **Section 4.9**, *Hazards and Hazardous Materials*). A full-time site safety manager would also implement and oversee health, safety, and fire protection throughout construction.

Furthermore, as described in **Section 4.14**, *Public Services*, **MM 4.14-1** requires the development and implementation of a Fire Safety Plan for use during construction, operation, and decommissioning of the project. The Fire Safety Plan would include emergency fire precautions for vehicles and equipment, fire rules, and training to ensure that project personnel are equipped to handle fire threats. Given the temporary and limited nature of the project's construction and decommissioning phases, and with the implementation of **MM 4.1-4, MM 4.9-1,** and **MM 4.14-1**, potential impacts on project occupants during construction to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire would be less than significant.

Operation

The project is designed for remote operation and would be available to charge or discharge electric energy year-round, 24 hours per day, seven days per week. While the project would be operated remotely, some staff would be needed on-site during routine operations. On-site staff would be required for security and to perform inspections, light maintenance, compliance management activities, and administrative management of the site. In addition, the project may require approximately four to six part-time employees for periodic maintenance needs such as repair or replacement of a failed component, vegetation management, maintaining storm water management systems, or maintaining facilities.

The project would include three operation and maintenance buildings, each approximately 1,200 square feet, located in the designated BESS areas (north, south, and west). The project proposes that each building include several offices, a conference room, a breakroom, and sanitary facilities. Parking spaces would be provided adjacent to each building. All roads, driveways, and parking lot entrances would be constructed in accordance with Kern County improvement standards. If a wildfire occurs in the area, it is anticipated that any employees occupying the site would be rapidly evacuated at the time of the event, and/or evacuated well in advance of an approaching wildfire in conformance with applicable Kern County evacuation directives.

While fires at BESS are rare, environmental monitoring that has occurred during and after outdoor cabinet-type BESS fires has shown that there are no impacts to the surrounding environment. For example, following an outdoor cabinet-type BESS fire at a San Diego Gas & Electric facility in Escondido, San Diego on September 5, 2024, County Hazmat conducted air monitoring over a 4-hour period during the incident at 11 different locations. The monitoring found only normal products of combustion of a structure fire were detected and at levels well below exposure thresholds set by the National Institute for Occupational Safety and Health and the Occupational Safety and Health Administration. A third-party contractor conducted additional air quality monitoring at 18 different locations during the incident—and for an additional 12 hours after the fire was extinguished—and concluded that at no time during the incident did the levels of oxygen deviate from 20.9 percent, which is considered a normal atmospheric level. Any decrease in the percentage of oxygen would indicate that there was some unknown gas in the atmosphere that was not able to be detected by monitoring equipment. No such deviation was detected (SDG&E 2024a).

The project includes fire water tanks, which is consistent with KCFD requirements for other similar projects. Due to the project electing to only use cabinet-type battery enclosures, the use of the fire water tanks are only intended to cool adjacent uninvolved enclosures if needed during a fire and not directly used on a battery fire, thus eliminating any water runoff concerns, both due to the limited water quantity and indirect application. By way of the same incident example, the fire water runoff used during the San Diego Gas & Electric fire in Escondido was sampled and found to have no levels of contamination above safe drinking water levels. Eurofins Calscience, an accredited environmental testing lab, in collaboration with San Diego County Wastewater Division, sampled for 17 different contaminants; six samples had detectable concentrations, but all were below safe drinking water levels. The remaining 11 samples did not detect any levels of the sampled contaminants. The San Diego County Wastewater Division at Hale Avenue Resource Recovery Facility confirmed that there were no concerns with this water entering the environment (SDG&E 2024b). The BESS facility would be designed to meet or exceed all applicable fire safety codes and standards in effect in Kern County, including KCFD requirements, NFPA standards, National Electrical Code, CFC, and manufacturer specifications.

NFPA 855 requires a Hazard Mitigation Analysis and large-scale fire testing to be conducted for stationary ESS, such as the project. Conducting a Hazard Mitigation Analysis and large-scale fire testing would confirm whether a battery fire would pose an ignition risk to other exposures, including vegetation. The testing involves systems passing performance-based criteria demonstrating that, in the unlikely event that a battery fire occurs, the fire would be contained to a single battery enclosure, and that adjacent enclosures would not be affected by thermal runaway, even without the use of fire suppression. To achieve these results, ESS typically employ various types of features, such as thermal runaway mitigation systems, adequate equipment spacing and setbacks, ventilation, early smoke detection, alarms, remote monitoring, vegetation management or non-combustible ground cover, and fire-resistant or non-combustible construction materials. Compliance with these standards would be demonstrated by including testing results, listing, plans, analysis, and drawings as part of the building permit application to KCFD for review and approval.

The project would be designed to include outdoor cabinet-type BESS enclosures equipped with Underwriters Laboratories-listed safety management equipment, integrated fire protection, and deflagration control systems designed to prevent thermal runaway and manage or mitigate associated risks. At a minimum, these design features would include smoke/fire detection sensors, ground fault detection, alarms, and systems for automatic shutdown of cooling fans and opening of electrical contacts in the battery system. Battery enclosures would be located at least 50 feet from the project site boundaries and spaced in accordance with NFPA 855 requirements designed to minimize the risk of a fire spreading to adjacent enclosures. Furthermore, each battery module and battery enclosure would be inspected and tested at the manufacturer's facility and at the project site before installation. Once installed, tested, and operational, each battery module would be continuously monitored for electrical current, voltage, and temperature to optimize performance and mitigate potential failures. Batteries performing out of specification would be immediately taken offline by the automated monitoring system. The use of automated monitoring would help reduce the risk of a BESS fire starting, therefore limiting the spread of fire to nearby batteries, structures, or vegetation.

The project would include an Incident Command Center consisting of a dedicated fire water supply and a fire alarm annunciator panel located near 170th Street West, at least 300 feet from the nearest BESS containers. Two potential locations are identified in the site plan, with the final location to be determined in consultation with the KCFD. In the event of a fire, the annunciator panel would provide first responders with real-time system information for the BESS facilities. This location would also serve as a staging area for emergency response personnel and equipment, as well as a multiagency command post situated at a safe

distance where full personal protective equipment would not be required. An aboveground water tank with a capacity of approximately 10,000 to 30,000 gallons would be installed adjacent to the Incident Command Post to provide a dedicated fire water supply. The final tank size and location would be determined based on coordination with the KCFD. All fire water infrastructure would be designed in accordance with KCFD requirements, including the incorporation of a 4-inch diameter National Standard Thread fire department connection, water level indicators, and adequate access for emergency response.

Moreover, NFPA 855 requires that an Emergency Response Plan be developed to ensure prompt, safe, and effective response in the event of an emergency. Initial and annual refresher training is also required for on-site employees, and the project proponents would coordinate with the KCFD to facilitate site-specific training for their staff. To further reduce potential impacts, the project proponent/operator shall develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions consistent with the CFC and Kern County Fire Code, per implementation of **MM 4.14-1**. The Fire Safety Plan would include emergency fire precautions for vehicles and equipment, fire rules, and training to ensure that project personnel are equipped to handle fire threats.

Although the potential for wildfire does exist, the project site's flat topography, equipment design and layout, strict vegetation management, employee and firefighter training, and implementation of **MM 4.14-1** (**Section 4.14**, *Public Services*), the project would not create conditions that would exacerbate wildfire risks. There is a low potential that the project would expose project occupants to pollutant concentrations from a wildfire or lead to the uncontrolled spread of wildfire due to slope, prevailing winds, and other factors. Therefore, potential impacts would be less than significant.

SCE Whirlwind Substation Upgrades

As described previously, the SCE Whirlwind Substation is located on relatively flat terrain, and the landscape consists primarily of sparse vegetation with minimal potential for fuel buildup and scattered residences. Impacts associated with the SCE Whirlwind Substation and tie-line corridors would be similar to those identified for the project. Fire safety measures, including vegetation clearance, would be implemented to ensure that the construction and operation of these facilities comply with applicable fire protection and environmental, health, and safety requirements. Additionally, SCE would implement best management practices to adequately manage vegetation, thereby reducing potential wildfire risks. Accordingly, SCE's work activities are not expected to exacerbate wildfire risks, thereby exposing project occupants to pollutant concentrations from a wildfire or leading to the uncontrolled spread of wildfire. Thus, impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.1-1** (see **Section 4.1**, *Aesthetics)*, **MM 4.9-1** (see **Section 4.9**, *Hazards and Hazardous Materials*), and **MM 4.14-1** (see **Section 4.14**, *Public Services*) would be implemented.

Level of Significance after Mitigation

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 project would construct the following:

- Battery energy storage arrays
- On-site collector substations
- Supervisory Control and Data Acquisition (SCADA) systems
- Telecommunication towers
- Operations and maintenance buildings
- Climate-controlled storage containers
- Site power infrastructure
- Water infrastructure
- Incident command center
- Site control and security infrastructure
- Station service transformers for on-site power
- Roads, drainages, and improved surfaces
- Two 220-kV overhead tie-lines to the SCE Whirlwind Substation located on the adjacent parcels to the south of the project site

The installation and maintenance of such infrastructure have the potential to exacerbate fire risk that may result in potentially significant impacts on the environment. All new infrastructure would be installed, operated, and maintained in accordance with safety standards that would reduce the risk of potential fires.

The battery energy storage arrays would be remotely controlled and periodically inspected for maintenance purposes. Enclosures would be free-standing, approximately 12 feet or less in height. In addition to battery enclosures, bidirectional medium-voltage transformers in purpose-built enclosures and voltage converters would be arranged throughout the battery energy storage arrays, and underground cables would connect the medium-voltage transformers to the collector substations. As described in Impact 4.18-2 above, the BESS facilities would be designed, operated, and maintained to meet or exceed all applicable fire safety codes and standards in effect in Kern County, including KCFD requirements, NFPA standards, the National Electrical Code, CFC, and manufacturer specifications. Compliance with these codes and standards would ensure fire risks are minimized.

Unlike typical structural or wildland fires, a battery energy storage fire does not produce embers. Instead, the principal mechanism for the spread of fire is radiant or convective heat transfer to adjacent exposures. Since embers are typically the primary cause for spreading fires, radiant or convective heat transfer reduces the likelihood of fire spread and ignition of adjacent vegetation or off-site areas. The fire risk associated with radiant or convective heat transfer would be addressed by complying with Kern County Fire Code and

NFPA 855 standards. These standards and codes include rigorous bench-scale fire testing, with performance-based criteria demonstrating that listed enclosures do not pose credible fire risk to adjacent enclosures and that a fire would not propagate beyond a single enclosure under testing conditions, even without the use of suppression. To achieve these results, the design of BESS typically employs various types of passive controls, such as thermal runaway mitigation systems, equipment spacing, setbacks, vegetation control/rock cover, and fire-resistant and/or non-combustible construction materials. Documentation demonstrating compliance with the Kern County Fire Code and NFPA 855—including testing results, listings, plans, analysis, and drawings—would be submitted with the building permit application to the KCFD for review and approval. Should a battery fire occur, incident response tactics as provided in the Fire Safety Plan (**MM 4.14-1**), Emergency Response Plan, and project-specific training would reduce the likelihood of a fire spreading. Therefore, the BESS would not exacerbate fire risk that could result in temporary or ongoing impacts on the environment.

The North BESS area and West BESS area would each have an on-site collector substation with three bidirectional transformers to convert between medium- and high-voltage for connection to the electric grid. Each collector substation would include 220 and 34.5 kV bus work, circuit breakers, disconnect switches, instrument transformers, metering transformers, three 220/34.5 kV bidirectional transformers, two auxiliary transformers for station service, a control house with relay protection, a SCADA system, and a telemetry system. The collector substation in the North BESS area would include an H-Frame dead-end structure up to 80 feet high and shield wires spanning from the top over other substation equipment. The tie-line would begin from the H-frame structure within the substation and extend south, spanning across the South BESS area. The tie-line would be supported by three tubular steel structures up to 140 feet high, with the southmost structure being the POCO. The collector substation in the West BESS area would include a tubular steel pole dead-end structure up to 140 feet high with shield wires spanning from the pole top downward over other substation equipment. The dead-end pole structure would be the POCO for the tie-line from the West BESS area.

From each POCO structure, the tie-lines would extend overhead across the project site boundary onto SCE-owned property located between the project site and the SCE Whirlwind Substation. Collector substation frameworks and transmission line support poles would be galvanized or otherwise finished with a low-reflective finish to minimize visual contrast. The POCO pole structures associated with both interconnections would be located within the project site and owned by the respective project proponent. SCE would construct, own, and operate the tie-lines that extend from the POCO structures across the project site boundary to the interconnection point at the SCE Whirlwind Substation 220-kV bus.

New internal drive lanes would be constructed throughout the project site to provide access from the existing road network to the battery energy storage arrays. Roadways within the developed portion of the project site would be engineered to meet KCFD requirements, including compacted subgrade and paved or otherwise durable erosion-resistant surfacing capable of supporting emergency response vehicles weighing up to 75,000 pounds. These access roads would remain in place following construction to support ongoing operation and maintenance activities. Because all new roadways would comply with applicable emergency access standards, the project would not exacerbate fire risk or result in temporary or ongoing impacts on the environment.

Finally, the project would include up to five water tanks distributed throughout the project site. A water tank with a co-located groundwater well would be located in each of the three designated BESS areas to supply fire protection water and water supply for the operation and maintenance building. In addition, up to two aboveground 10,000 to 30,000-gallon tanks dedicated for potential fires would be located adjacent

to the incident command post locations near 170th Street West. Final locations and volumes of the dedicated fire protection water supplies would be determined based on consultation with the KCFD and would be designed to meet departmental requirements. The project would design water supplies to include a 4-inch diameter National Standard Male connection for fire department use, a water level indicator, and ready access.

The proposed improvements would be installed in an area with a moderate potential for wildfire; the project site is not located in or near a High or Very High FHSZ or within an SRA, with the nearest Very High FHSZ located approximately 5 miles southeast of the project site. As described previously, the average wind speed in the area is 11.3 miles per hour; therefore, it is unlikely that the spread of wildfire would be exacerbated due to wind. In addition, the project would be subject to fuel-reduction maintenance requirements around buildings and structures to ensure that no fuel buildup would exacerbate the risk of fire either on- or off-site. Construction, operation, maintenance, and decommissioning associated with the infrastructure would adhere to all federal, State, and local laws, regulations, codes, and safety standards mentioned above. Furthermore, as discussed in **Section 4.14**, *Public Services*, the project proponent/operator would develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions consistent with the California and Kern County Fire Code for use during construction, operation, and decommissioning, per implementation of **MM 4.14-1**. The Fire Safety Plan would contain procedures and protocols to ensure that first responders are adequately trained to control a fire emergency at the site during both project development and operation. Implementation of this plan would ensure that potential project impacts would be less than significant.

SCE Whirlwind Substation Upgrades

As previously noted, the SCE work activities would include the two overhead tie-lines from the POCOs located on the project site to the dead-end structures within the existing SCE Whirlwind Substation. Power would be transmitted from the North BESS area collector substation to the SCE Whirlwind Substation via three steel tower or pole structures approximately 140 feet high. Power would be transmitted from the West BESS area collector substation via up to five steel towers or pole structures. Of the five structures, three would be approximately 140 feet high, and two would be between 140 feet and 200 feet high. The two higher structures are needed to achieve the required vertical clearances over existing transmission lines.

Telecommunication lines linking the collector substations on the project site and the existing communications room at the SCE Whirlwind Substation would also be needed. To ensure reliability, two independent communication lines would be needed for each tie-line. The communication lines would be placed underground, overhead, or configured with a combination of both. Work activities associated with the Whirlwind Substation upgrades and tie-lines would require clearing and minor grading for access and work areas using a dozer or similar equipment.

Impacts associated with the upgrades at the Whirlwind Substation and the installation of tie-lines would be similar to those described for the project. The construction and operation of such infrastructure could exacerbate wildfire risk; however, as previously noted, the Whirlwind Substation is not located in an SRA or designated as a Very High FHSZ. Furthermore, the SCE Whirlwind Substation and tie-line corridors are not within a CPUC-designated HFTD. SCE would implement standard best management practices during their work on the project. The SCE upgrades are not anticipated to exacerbate fire risk or result in temporary or ongoing impacts to the environment; therefore, impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.14-1** (see **Section 4.14**, *Public Services*) would be required.

Level of Significance after Mitigation

Impacts would 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.

Slope failures, mudflows, and landslides are common in areas where steep hillsides and embankments are present, and such conditions would be exacerbated in a post-fire environment where vegetative cover has been removed. Vegetation plays a vital role in maintaining existing drainage patterns and the stability of soils. Plant roots stabilize the soil while leaves, stems, and branches intercept and slow water, allowing it to percolate more effectively into the soil. Removal of surface vegetation reduces the ability of the soil surface to absorb rainwater and can allow for increased runoff that may include large amounts of debris and mud flows. If hydrophobic conditions exist after a fire, the rate of surface water runoff is increased because water percolation into the soil is reduced. For areas recently burned by large wildfires, the potential for surface runoff and debris flows increases.

The project site is located on relatively flat terrain that gently slopes from the northwest toward the southeast. The project is not located in or near an area classified as Very High or High FHSZ, nor is it located within an SRA. Based on fire history, no fires have occurred on-site or in the vicinity. Land uses surrounding the project site primarily consist of energy generation facilities, communications infrastructure, agricultural, and sparse residences. As such, the project site and surrounding areas do not consist of dense, urban development or populations that could be exposed to significant risks from post-wildfire conditions.

Construction of the project would require the removal of vegetation, grading, and alteration of existing onsite drainage patterns and flow paths. These construction activities would loosen soil and could contribute to soil loss and erosion. The project would also increase the amount of impervious areas on-site as a result of the battery energy storage arrays, operation and maintenance structures, paved driveways throughout the arrays, and associated infrastructure. These project components would reduce stormwater infiltration and increase runoff compared to existing conditions. However, stormwater flows would be controlled by runoff diversion ditches, elevated on-site driveways, shallow rip-rap-lined ditches, and detention and retention basins. In addition, the project would be required to comply with applicable stormwater and drainage requirements, including the preparation of a Final Drainage Plan (**MM 4.10-2**) and implementation of construction stormwater controls (**MM 4.10-1**), which are intended to manage runoff and avoid substantial adverse changes in drainage and erosion. 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, and potential impacts would be less than significant.

SCE Whirlwind Substation Upgrades

As previously stated, the SCE Whirlwind Substation, including the tie-line corridors, is located on relatively flat terrain, is outside an SRA, and is not designated as a Very High FHSZ. However, construction activities associated with the tie-line structures and telecommunications infrastructure within the tie-line corridors would require grading and excavation activities. While runoff patterns and concentrations could be altered by grading activities, such changes would be minimal. SCE would implement standard best management

practices and comply with all applicable State and federal regulations related to flooding and landslides during work associated with the Whirlwind Substation upgrades and tie-lines. As such, these work activities 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. Therefore, impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.10-1** and **MM 4.10-2** (see **Section 4.10**, *Hydrology and Water Quality*) would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

4.18.5 Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for the analysis of cumulative wildfire impacts is a 6-mile buffer around the project site, as wildfire behavior is largely dependent on factors that are non-localized, such as wind patterns, topography, climatic conditions, humidity, and available fuels such as dry vegetation. As described in **Table 3-4**, *Cumulative Projects List*, in **Chapter 3**, *Project Description*, there are five cumulative projects proposed within the cumulative impact study area. Of these projects, only one is within an SRA and designated as Very High FHSZ.

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 Kern County Fire Code and Building Code requirements and before the issuance of a building permit. Further, the project site is located in a rural, sparsely developed area with a limited population, minimal vegetation, and flat terrain. The project would be designed, constructed, operated, and decommissioned in compliance with all applicable fire safety standards and requirements, including the Kern County Fire Code and Building Code requirements.

As discussed in **Section 4.15**, *Transportation*, the project would develop and implement a Construction Traffic Control Plan for review and approval from the Kern County Public Works Department and the California Department of Transportation per **MM 4.15-1**. Implementation of the Construction Traffic Control Plan would ensure that the potential for project-related construction traffic to interfere with vehicular circulation or emergency access along local roadways is minimized, including during emergency evacuations. Similar to the project, cumulative projects would be required to determine whether they are classified as being within a Very High FHSZ, identified within an emergency evacuation route, or within an adopted emergency evacuation plan, and whether they meet applicable Fire and Building Code requirements. Nevertheless, given the geographic scope of the cumulative impact analysis, which includes relatively rural areas with limited existing infrastructure, development of the project and other projects could incrementally increase the exposure of occupants to wildfire-related pollutant concentrations. As such, the project would result in a significant and unavoidable cumulative impact.

With respect to cumulative impacts related to the exposure of project occupants to pollutant concentrations from a wildfire, the project is not within a Very High FHSZ or an SRA. Although projects considered in the cumulative impact analysis may be located within an SRA and High FHSZ, all projects, including the

project, would be required to comply with applicable fire safety codes and standards. These include KCFD requirements, the CFC, NFPA standards, the National Electrical Code, and applicable manufacturer specifications. Compliance with these requirements would ensure projects incorporate appropriate fire-resistant design features, operational safeguards, and response plans that reduce the potential for the uncontrolled spread of a wildfire and potential impacts associated with exposure to pollutant concentrations from wildfire events. In addition, the relatively flat topography in the project vicinity, with limited rolling hills and drainages, makes slope and wind unlikely to exacerbate wildfire risks. Accordingly, the project and cumulative projects are unlikely to impact occupants of each project.

As concluded in the discussion of project impacts above, the project would result in less-than-significant impacts related to the exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Nevertheless, given the geographic scope of the cumulative impact analysis, which includes relatively rural areas with limited existing infrastructure, development of the project and other projects could incrementally increase the exposure of occupants to wildfire-related pollutant concentrations. As such, the project would result in a significant and unavoidable cumulative impact related to exposing project occupants to wildfire-related pollutant concentrations or the uncontrolled spread of a wildfire.

Related projects may include infrastructure such as access roads, fuel breaks, and power lines that could increase fire risk or result in temporary or ongoing environmental impacts. However, the County would review these projects for consistency with applicable land use designations, zoning, and regulatory requirements, including fire safety. Infrastructure associated with cumulative projects would be designed, constructed, and maintained in accordance with all applicable fire codes, thereby minimizing fire risk.

Although the infrastructure associated with the project could increase fire risk, all components would be installed, operated, and maintained in accordance with applicable fire safety codes and standards. In addition, implementation of **MM 4.14-1** would require preparation and implementation of a Fire Safety Plan, consistent with KCFD requirements, further reducing the potential for fire-related impacts. Similarly, other cumulative projects would be required to implement fire prevention and response measures, including a Fire Safety Plan, as determined appropriate by the County. Additionally, other projects would be required to mitigate any significant impacts on public services, utilities, and transportation, as with the project. Nevertheless, given the geographic scope of the cumulative impact analysis, which includes relatively rural areas with limited existing infrastructure, development of the project and other projects has 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 cumulative projects could be located in areas susceptible to downslope or downstream flooding or landslides resulting from post-fire instability. All projects would be required to comply with applicable Kern County land use designations, zoning regulations, fire codes, and requirements related to drainage and site stability, reducing the potential to expose people or structures to such risks. In addition, cumulative projects would require site-specific hydrology and drainage studies to inform effective drainage design, as is required for the project, pursuant to **MM 4.10-2**. Other projects would also implement the erosion and sediment control best management practices (BMPs) identified in project-specific Storm Water Pollution Prevention Plans, as required by the National Pollutant Discharge Elimination System General Construction Permit Program, as is required for the project with the implementation of **MM 4.10-1**. With the implementation of **MM 4.10-1** and **MM 4.10-2**, the project would not expose people or structures to significant risks associated with post-fire slope instability, runoff, or drainage changes, and impacts would be less than significant. Nevertheless, given the geographic scope of the cumulative impact analysis, which

includes areas subject to high wind speeds and is a rural area with limited infrastructure, the project and other projects combined 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. As such, the project would result in a significant and unavoidable cumulative impact.

SCE Whirlwind Substation Upgrades

As discussed above in Impacts 4.18-1 through 4.18-4, SCE would design, construct, own, and operate the SCE Whirlwind Substation improvements, including the tie-lines extending from the respective POCO poles across the project site boundary to the interconnection points at the SCE Whirlwind Substation. Construction activities associated with the SCE Whirlwind Substation upgrades would require clearing, grading, and excavation. Impacts associated with the SCE upgrades would be similar to those described above for the rest of the project. SCE would implement standard best management practices during their work on the project, such that impacts would be less than significant.

Mitigation Measures

Implementation of **MM 4.10-1**, **MM 4.10-2** (see **Section 4.10**, *Hydrology and Water Quality*)**, MM 4.14-1** (see **Section 4.14**, *Public Services*), and **MM 4.15-1** (see **Section 4.15**, *Transportation*) would be required.

Level of Significance after Mitigation

Despite implementation of the above mitigation measures, cumulative impacts would remain significant and unavoidable.

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Chapter 5
Consequences of Project Implementation

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Chapter 5
Consequences of Project Implementation

5.1 Environmental Effects Found to Be Less than Significant

Section 15128 of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (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 (County) has engaged the public in the scoping of this Draft EIR. Comments received during scoping have been considered in the process of identifying issue areas that should receive attention in the Draft EIR. The Draft EIR contents were established based on the Notice of Preparation (NOP) located in **Appendix A**. Issue areas that were determined to have no impact or less-than-significant impacts do not need to be addressed further. Based on the findings of the NOP and the results of the scoping process, the County determined that the project would have no impact with regard to the following resource areas:

- Population and Housing
- Recreation

The NOP determined that the project would require an operational/maintenance staff of up to 12 employees, including up to six full-time and six part-time. It is estimated that up to 220 construction workers per day would be required during peak construction periods for the project, including the work activities associated with the Southern California Edison (SCE) Whirlwind Substation upgrades and tie-lines. Project construction is anticipated to take two years, with work by various trades encompassing shorter durations. Local unions representing these trades have a strong regional presence, and most workers are expected to commute to the project site on a daily basis. The construction contractor would be responsible for hiring workers and would preferentially hire from the local labor pool. Construction workers are expected to travel to the project site from various local communities and locations throughout Southern California. Because these positions would be temporary, few, if any, workers are expected to relocate to the surrounding area. If temporary housing is needed, sufficient accommodations are expected to be available in nearby communities, including Rosamond, Mojave, and surrounding areas (e.g., extended-stay hotels, apartments, recreational vehicle parks, and rental housing). As a result, the project is not anticipated to directly or indirectly induce substantial new residential housing or business development within local communities. Furthermore, there would be no detectable increase in the use of parks or other recreational facilities. Accordingly, no significant impacts related to population and housing or recreation would occur. In addition, no comments were received during circulation of the NOP indicating that population and housing or recreation are issue areas requiring further analysis. Therefore, these topics are not discussed in detail in this Draft EIR.

For all other issue areas, this Draft EIR contains a comprehensive analysis of potential environmental impacts. As described in detail in the applicable sections of **Chapter 4**, *Environmental Setting, Impacts, and Mitigation Measures*, the direct, indirect, and cumulative impacts associated with the project would

have less than significant impacts, or could be reduced to less than significant levels with mitigation measures for the following resource areas:

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

5.2 Significant Environmental Effects that Cannot Be Avoided

Section 15126.2(b) of the CEQA Guidelines requires EIRs to 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 Draft EIR.

After further study and environmental review, as provided in this Draft EIR, it was determined that the project would result in significant and unavoidable project-level and cumulative impacts. As shown in **Table 5-1**, *Summary of Significant and Unavoidable Impacts of the Project*, impacts involving the following issue areas would be significant and unavoidable, even with the incorporation of mitigation measures to the greatest extent feasible.

After further study and environmental review, as provided in this Draft EIR, it was determined that the project would result in project-level and cumulative impacts regarding several issue areas. 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 result 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.

TABLE 5-1: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROJECT

Resources	Project Impacts	Cumulative Impacts
Aesthetics	There would be no significant and unavoidable project-level impacts.	Despite implementation of **Mitigation Measures (MM) 4.1-1** through **MM 4.1-5**, the project would contribute to a cumulatively significant and unavoidable aesthetic impact related to visual character. While other projects in the area would also be required to implement various mitigation measures to minimize impacts, the cumulative conversion of largely undeveloped desert habitat and landscapes to energy and utility-related uses cannot be mitigated to a degree that impacts are no longer significant. Even with the implementation of **MM 4.1-1** through **MM 4.1-5**, the project's contribution to significant impacts associated with visual character in the Antelope Valley would be cumulatively **significant and unavoidable**.
Air Quality	Project-generated construction emissions would exceed Significant Impact Levels for PM_{10}, for which the region is designated nonattainment. Even with the implementation of **MM 4.3-1** through **MM 4.3-8**, the project's contribution to regional air quality impacts associated with short-term construction activities would be considered **significant and unavoidable**.	Project-generated construction emissions along with other cumulative projects would cumulatively exceed Significant Impact Levels for PM_{10}, for which the region is designated nonattainment. For these reasons, and even with the implementation of **MM 4.3-1** through **MM 4.3-8**, the project's contribution to regional air quality impacts associated with short-term construction activities would be considered cumulatively **significant and unavoidable**.
Biological Resources	Implementation of the project would have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations by the CDFW. Approximately 76 percent of western Joshua tree (WJT) within the project site and 50-foot buffer are subject to potential direct impacts. In addition, approximately 11 percent of WJT stems are subject to potential indirect impacts. While implementation of **MM 4.4-1** through **MM 4.4-4**, and **MM 4.4-7** would reduce impacts to WJT, the County considers impacts to WJT to be **significant and unavoidable** due to the number of WJT that would be impacted to implement the project. Impacts on all other potentially affected species or habitats would be less than significant.	As large-scale energy and utility development and urbanization continue in Kern County, impacts on biological resources are increasing. When considered together with cumulative projects in the Antelope Valley, the project could contribute to the loss, fragmentation, and degradation of habitat for special-status species. Although implementation of **MM 4.1-1** through **MM 4.1-3**, **MM 4.4-1** through **MM 4.4-20, MM 4.10-1** and **MM 4.10-2** would reduce project-level impacts, the combined effects of the project and cumulative projects would have the potential to result in cumulatively **significant and unavoidable impacts** on biological resources.

Resources	Project Impacts	Cumulative Impacts
Wildfire	There would be no significant and unavoidable project-level impacts.	Despite implementation of **Mitigation Measures MM 4.10-1** and **MM 4.14-1**, given the project's location in a rural area with limited existing infrastructure, the project and cumulative projects would have the potential to result in cumulatively **significant and unavoidable** wildfire impacts related to: the exposure of project occupants from a wildfire, the installation or maintenance of associated infrastructure; and the exposure of people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes.

5.3 Irreversible Impacts

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

The project would commit nonrenewable resources during project construction. Energy resources, such as diesel and gasoline fuel, would be consumed during the use of off-road equipment and on-road vehicles, and electricity would be consumed to operate lighting and electrical equipment. The use of nonrenewable resources for project construction would be temporary.

During project operations, oil, gasoline fuel, and other fossil fuels and nonrenewable resources would be consumed. These include mineral oil contained in transformers, pressurized gas and coolant in climate control equipment, fossil fuels for project employee commute trips, and backup generator fuel. 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 (KCGP) and Willow Springs Specific Plan, as a matter of public policy, those commitments have been determined to be acceptable. Compliance with the KCGP and Willow Springs Specific Plan would ensure that any irreversible environmental changes associated with those commitments would be minimized.

5.4 Growth Inducement

The KCGP 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 occur when a project increases employment levels, removes barriers to development, or provides resources that lead to secondary growth. The project would not induce substantial population growth through employment. As described above, construction workers not drawn from the local labor pool would be accommodated in existing housing or lodging facilities, such as extended stay

hotels, apartments, RV parks, or homes for rent or sale, in nearby communities, including Rosamond, Mojave, and Lancaster. During operations, there would be up to 12 employees, including up to six full-time and six part-time equivalent personnel. These employees are anticipated to commute from surrounding communities, and the majority would likely be drawn from the existing regional labor pool.

The project would provide up to 9,200 MWh of battery energy storage capacity to support the integration of renewable energy resources and enhance grid reliability. Development of energy-related infrastructure is a response to existing and forecasted energy demand and does not, in itself, facilitate new growth. Kern County planning documents already anticipate growth in the region and the corresponding increase in energy demand. Accordingly, projected growth drives the need for energy-related infrastructure, such as the project, rather than it inducing growth.

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-related projects have contained similarly detailed analyses of growth-inducing impacts. Their conclusions that increasing the energy supply or enhancing grid reliability 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 would necessarily be too speculative and tenuous to merit extensive analysis. Consistent with these judicial precedents, the project would support renewable energy storage and grid reliability to meet existing and projected energy needs associated with anticipated regional growth. The project would not remove constraints to development, induce substantial population growth, or otherwise facilitate growth beyond that already projected in applicable planning documents. Therefore, the level of analysis provided in this Draft EIR adequately informs the public and decision makers of the growth-inducing impacts of the project.

5.5 Energy Conservation

To ensure that energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (Public Resources Code Section 21100(b)(3)). According to Appendix F of the CEQA Guidelines, the goal of conserving energy implies the wise and efficient use of energy, including: (1) decreasing overall per capita energy consumption; (2) decreasing reliance on natural gas and oil; and (3) increasing reliance on renewable energy sources.

As discussed in **Section 4.6**, *Energy*, project construction would require the consumption of diesel and gasoline fuel to operate off-road equipment and on-road vehicles. The amount of electricity used during construction would be minimal, and natural gas would not be required for construction activities. Overall, construction activities associated with the project would result in the consumption of petroleum-based fuels. However, there are no unusual project characteristics that would necessitate the use of construction equipment or vehicles that would be less energy efficient than at comparable construction sites in other parts of the State of California. Therefore, it is expected that construction fuel consumption associated with

the project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

Long-term operational activities would require energy consumption in the form of electricity and gasoline and diesel fuel. Buildings would require electricity for multiple purposes, including, but not limited to, building heating and cooling, water heating, lighting, and electronics. Operation would require the use of gasoline fuel associated with up to six full-time employees, deliveries, periodic maintenance, and augmentation installation on-road vehicle trips. Vehicle fuel efficiency standards are expected to increase pursuant to state regulatory actions; thereby, potentially decreasing the amount of petroleum required for project operations over time. Additionally, diesel fuel would be consumed by delivery vehicle trips, off-road equipment, and periodic testing of up to four 150 kW diesel-fired back-up generators. Testing would be limited to the periods recommended by the equipment manufacturer to avoid wasteful use of diesel fuel. By increasing utility-scale energy storage capacity and supporting State and local renewable energy and grid reliability goals, the project would improve the integration of renewable energy resources and provide a beneficial contribution to energy conservation and would not result in the inefficient, wasteful, or unnecessary consumption of energy.

Chapter 6
Alternatives

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Chapter 6
Alternatives

6.1 Introduction

The California Environmental Quality Act (CEQA) Guidelines Section 15126.6 states that an Environmental Impact Report (EIR) must "describe a range of reasonable alternatives to the project, or to the location of 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." This chapter describes alternatives considered but eliminated from further consideration (including the reasons for elimination) and compares the environmental impacts of several alternatives retained along with 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 those that would avoid or substantially lessen any of the significant effects of the project.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives is selected and discussed in a manner that fosters meaningful public participation and informed decision-making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in CEQA Guidelines Section 15126.6(f)(1)) are environmental impacts, site suitability, economic viability, social and political acceptability, technological capacity, availability of infrastructure, general plan consistency, specific plan consistency, regulatory limitations, jurisdictional boundaries, and whether the project proponent could reasonably acquire, control, or otherwise have access to an alternative site. If an alternative has effects that cannot be reasonably identified, if its implementation is remote or speculative, and if it would not achieve the basic project objectives, it need not be considered in the EIR.

Significant Impacts of the Project after Mitigation

Implementation of the project has the potential to have significant adverse effects on:

- Aesthetics (cumulative only)
- Air Quality (project construction and cumulative construction)
- Biological resources (project Western Joshua Tree [WJT] only and cumulative)
- Wildfire (cumulative only)

Even with the mitigation measures described in **Chapter 4**, *Environmental Setting, Impacts, and Mitigation Measures*, of this Draft EIR, impacts in these issue areas would be significant and unavoidable. Therefore, per the CEQA Guidelines, this section discusses alternatives that are capable of avoiding or substantially lessening effects on these resources. The significant and unavoidable impacts of the project are discussed below.

Aesthetics

Although project-level aesthetics impacts would be less than significant with the implementation of **Mitigation Measure** (**MM) 4.1-1** through **MM 4.1-5**, cumulative development of renewable energy facilities and utility-related infrastructure in the Antelope Valley would incrementally reduce the extent of undeveloped desert landscapes and unobstructed views of regional topographical features. As discussed in **Section 4.1**, *Aesthetics*, new solar photovoltaic facilities associated with cumulative projects in the project vicinity would convert large natural areas of vegetated desert habitat to developed uses. In addition, transmission infrastructure connecting energy-generating projects to substations would introduce additional vertical elements into the landscape. Together, these projects would incrementally alter the visual quality and character of the Antelope Valley.

The project would implement **MM 4.1-1** through **MM 4.1-5** to minimize project-specific visual impacts by maintaining the site free of debris and trash, selecting colors and treatments that blend with the surrounding environment, preserving and revegetating native vegetation where possible, providing privacy screening, and reducing the visibility of project features. While implementation of these measures would reduce the project's visual impacts and contribution to cumulative aesthetics changes, there are no feasible mitigation measures available to maintain the existing open and undeveloped desert landscape character of the Antelope Valley. Accordingly, cumulative impacts to the visual quality and character of the Antelope Valley would remain significant and unavoidable.

Air Quality

Construction of the project would generate emissions from heavy equipment, ground-disturbing activities, and truck exhaust. An ambient air quality analysis determined that mitigated project construction would generate ambient PM_{10} concentrations that exceed the U.S. Environmental Protection Agency Significant Impact Level of 5 µg/m³ at the project fenceline. Even with the implementation of **MM 4.3-1** through **MM 4.4-3**, PM_{10} concentrations could remain above the significance threshold under conservative, worst-case construction assumptions. Therefore, construction-related PM_{10} impacts would be significant and unavoidable.

Construction activities associated with the project, in combination with other reasonably foreseeable projects in the region, could at times contribute to elevated PM_{10} concentrations. Because construction of the project could exceed the applicable PM_{10} concentration threshold after implementation of mitigation measures, and the project site is located within an area that is in nonattainment for PM_{10} under the California Ambient Air Quality Standards, the project would make a temporary, cumulatively considerable contribution to a significant cumulative air quality impact related to PM_{10}. Accordingly, cumulative construction-related PM_{10} impacts would be significant and unavoidable.

Biological Resources

The project site and the surrounding area provide suitable habitat for several special-status species or otherwise protected plant and wildlife species, collectively referred to as special-status species. Implementation of the project, in combination with cumulative projects in the Antelope Valley, would contribute to the loss, fragmentation, and degradation of habitat used by special-status species, including the western burrowing owl, Swainson's hawk, loggerhead shrike, and Crotch's bumble bee.

The project proponent would implement the following measures to help avoid, minimize, and/or reduce impacts: **MM 4.1-1, MM 4.1-3, MM 4.4-1** through **MM 4.4-3**, **MM 4.4-8**, **MM 4.4-9**, **MM 4.4-14**, **MM 4.4-18**, **MM 4.9-2**, and **MM 4.13-1**. These measures require implementation of a Maintenance, Trash Abatement, and Pest Management Program; implementation of a Landscape Revegetation and Restoration Plan; a Lead Biologist to oversee all biological mitigation measures; implementation of a Worker Environmental Awareness Training Program; general avoidance and protective measures designed to avoid impacts to special-status species during construction, operation and maintenance, and decommissioning activities; pre-construction surveys for special-status wildlife, including bird species; and conducting preconstruction nesting bird surveys; minimization of native vegetation removal; the preparation of a weed control plan; implementation of emissions control measures; and reducing noise levels associated with construction.

Cumulative projects that could affect special-status species and their habitats would also be subject to applicable federal, State, regional, and local agency regulations, including avoidance, minimization, and mitigation requirements. However, given the number and scale of cumulative projects in the Antelope Valley, incremental development would result in significant cumulative impacts on special-status species and their habitats. The project would directly impact approximately 316 western Joshua trees (WJT) and indirectly impact an additional approximately 46 trees. For WJTs that cannot be avoided, the project would implement **MM 4.4-7**, which requires consultation with CDFW regarding take of WJT and acquisition of an incidental take permit. The project proponent would be required to comply with all avoidance, minimization, and compensatory mitigation measures outlined in the incidental take permit.

Although the implementation of mitigation measures would minimize project-level impacts on special-status species and their habitats to the greatest extent feasible, the combined effects of the project and other cumulative development in the Antelope Valley would result in cumulative impacts on special-status species and their habitats. Thus, cumulative impacts to special-status species and their habitats would be significant and unavoidable.

Wildfire

The project site is located in a rural, sparsely developed area with a limited population. The project site is not located along an identified emergency evacuation route nor is it identified in an adopted emergency evacuation plan. Furthermore, it is not located in or near State Responsibility Areas or lands classified as

"very high" Fire Hazards Severity Zones, which are the primary indicators for elevated fire risks that require detailed impact analysis according to Appendix G of the CEQA Guidelines.

The project and cumulative projects would be required to comply with applicable fire safety codes and standards, including KCFD requirements, the CFC, NFPA standards, the National Electrical Code, and applicable manufacturer specifications. Compliance with these requirements would ensure projects incorporate appropriate fire-resistant design features, operational safeguards, and response plans that reduce the potential for the uncontrolled spread of a wildfire and potential impacts associated with exposure to pollutant concentrations from wildfire events. Related projects may include infrastructure such as access roads, fuel breaks, and power lines that could increase fire risk or result in temporary or ongoing environmental impacts. However, the County would review these projects for consistency with applicable land use designations, zoning, and regulatory requirements, including fire safety. Infrastructure associated with cumulative projects would be designed, constructed, and maintained in accordance with all applicable fire codes, thereby minimizing fire risk. In addition, the relatively flat topography in the project vicinity, with limited rolling hills and drainages, makes slope and wind unlikely to exacerbate wildfire risks.

To ensure the proposed project would not substantially impair an adopted emergency response or evacuation plan, **MM 4.15-1** would be implemented during construction and decommissioning, which would require the preparation and implementation of a Traffic Control Plan. In addition, implementation of **MM 4.14-1** would require the preparation and implementation of a Fire Safety Plan, consistent with KCFD requirements. Similarly, cumulative projects would be required to implement fire prevention and response measures, including a Fire Safety Plan, as determined appropriate by the County. Cumulative projects would be required to implement similar mitigation measures to reduce project-related impacts.

In addition, some cumulative projects could be located in areas susceptible to downslope or downstream flooding or landslides resulting from post-fire instability. However, all projects would be required to comply with applicable Kern County land use designations, zoning regulations, fire codes, and requirements related to drainage and site stability, reducing the potential to expose people or structures to such risks. The project would reduce impacts by implementing **MM 4.10-1** and **MM 4.10-2**, requiring final site hydrology and drainage studies to inform effective drainage design and implementing the erosion and sediment control best management practices (BMPs) identified in the project-specific Storm Water Pollution Prevention Plan (SWPPP), as required by the National Pollutant Discharge Elimination System General Construction Permit Program.

Although impacts of the project by itself would be less than significant with mitigation, the geographic scope of the cumulative impact analysis includes a broad area that is relatively rural and has limited existing infrastructure. Development of the project in combination with other cumulative projects could incrementally increase exposure of occupants to wildfire-related pollutant concentrations during wildfire events. Therefore, cumulative impacts associated with wildfire would be significant and unavoidable, and the project's contribution to the cumulative impact would be cumulatively considerable.

6.2 Applicant Submitted Project Objectives

Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce any significant environmental effects (CEQA Guidelines, Section 15126.6[c]). As described in **Chapter 3**, *Project Description*, of this EIR, the

following applicant-submitted objectives have been established for the project and will aid decision makers in the review of the project and associated environmental impacts.

- **Objective 1** – Establish a reliable, economically feasible, and commercially financeable energy storage facility of sufficient size to substantially contribute to State goals for storage capacity.
- **Objective 2** – Provide Kern County, the State of California, and Southern California Edison, with storage capacity that would assist in meeting obligations under California's Renewable Portfolio Standard Program. To achieve California's 2045 clean energy targets, the Public Utilities Commission has identified a need for 52 gigawatts of energy storage capacity.
- **Objective 3** – Use proven and established energy storage technology that is efficient with low maintenance requirements.
- **Objective 4** – Minimize the need for new infrastructure to connect the storage capacity to the grid.
- **Objective 5** – Site and design the project in an environmentally responsible manner.
- **Objective 6** – Locate the storage capacity close to an abundant source of renewable energy to optimize transmission efficiency.
- **Objective 7** – Utilize land that is commercially viable to secure.
- **Objective 8** – Develop an energy storage facility in Kern County that would support the economy by investing in the local community, providing green jobs to the County and California, and increase tax and fee revenue to the County.

6.3 Overview of the Project

The project consists of the construction, operation and maintenance, and eventual decommissioning of a 9,200 megawatt-hour (MWh) capacity battery energy storage system (BESS) facility on approximately 120 acres in the unincorporated area of southeastern Kern County, California. The project would be developed within three designated areas, the North, South, and West BESS areas, and would store electricity from the regional grid and supply it back to the grid as needed. Primary project components include:

- Outdoor battery energy storage enclosures, equipped with bi-directional medium voltage (MV) transformers, voltage converters, and underground cables that connect the MV transformers to the collector substations;
- Two on-site collector substations containing circuit breakers, switchgear, transformers, bi-directional transformers, two auxiliary transformers for station service, a control house with relay protection, a Supervisory Control and Data Acquisition (SCADA) system, and telecommunications systems;
- Two microwave communication towers;
- Three approximately 1,200 square feet operations and maintenance buildings;
- Up to eight climate-controlled, permanent storage containers;
- Up to four 250 kW diesel-fired generators, each with an associated 500-gallon fuel tank;
- Water supply and fire protection infrastructure, including a water tank and co-located groundwater well at each of the BESS areas and a dedicated aboveground fire water tank;

- A septic tank and leach field at each of the BESS areas;
- Site control and security infrastructure, including access gates, perimeter security fencing, and nighttime directional lighting;
- On-site access roads and paved driveways;
- Stormwater-related infrastructure, including run-off diversion ditches and detention and retention basins;
- Two new 220 kV interconnection lines (tie-lines) within new tie-line corridors connecting the project to SCE's Whirlwind Substation. The tie-lines would include single- or double-circuit overhead conductor cables and static wires, redundant fiber-optic communication lines installed overhead or underground, or both, and steel pole or tower support structures;
- An approximately three-acre temporary laydown yard that would be used for storing construction materials and equipment; and
- An Incident Command Center consisting of a dedicated fire water and fire alarm annunciator panel.

For a more detailed description of the project, see **Chapter 3**, *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 project, the aforementioned objectives established for the project, and the feasibility of the alternatives considered, this chapter provides the comparative analysis of the alternatives considered, including the No Project Alternative as required by CEQA, which is summarized in **Table 6-2**, *Summary of Development Alternatives*. The Environmentally Superior Alternative, as required by CEQA, is described in **Section 6.8**, *Environmentally Superior Alternative*.

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 project versus a No Project Alternative. Alternative 1, the No Project Alternative, assumes that the development of the 9,200 MWh capacity BESS facility would not occur, and would not require the Zone Change Cases (ZCC), Conditional Use Permits (CUP), Zone Variance (ZV), or Nonsummary Vacations. The No Project Alternative would maintain the current zoning and land use classifications, and the project site would remain in its existing condition as primarily undisturbed privately owned land. Therefore, the No Project Alternative would not result in construction and operation of a utility-scale electric storage system that would assist the State of California in complying with the RPS and GHG emission reduction standards and grid reliability objectives.

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

Alternative 2, the General Plan/Specific Plan and Zoning Build-Out Alternative, assumes the project site would be developed to the maximum intensity allowed under the existing Kern County General Plan

(KCGP) and Willow Springs Specific Plan land use and zoning classifications. As described in **Chapter 3**, *Project Description*, the project site has the following KCGP Map Codes: 3.3 (Other Facilities), 4.1 (Accepted County Plan Areas); 5.6 (Minimum 2.5 Gross Acres/Unit); 5.7 (Minimum 5 Gross Acres/Unit); 5.75 (Minimum 10 Gross Acres/Unit); and 5.8 (Minimum 20 Gross Acres/Unit). Additionally, the Kern County Zoning Ordinance designates the project site as A (Exclusive Agriculture) and E (Estate). Many project parcels also contain one or more of the following combining districts: Floodplain Secondary (FPS), Wind Energy (WE), and Residential Suburban (RS).

Implementation of this alternative would consist of development in accordance with the existing designations, which would allow agricultural operations and the construction of low-density residential development. The project site would be developed in accordance with the applicable KCGP and Willow Springs Specific Plan goals, policies, and implementation measures. Under this alternative, no BESS facilities would be developed.

Alternative 3: Reduced Footprint Alternative

Alternative 3, the Reduced Footprint Alternative, would be similar to the proposed project except that the West BESS area would not be developed for BESS uses. Eliminating the West BESS area from development would reduce the project site by approximately 60 percent, from approximately 120 acres to approximately 70 acres. This alternative would also reduce the project's energy storage capacity by approximately 40 percent, from 9,200 MWh to 5,600 MWh. The same discretionary entitlements, including ZCCs, CUPs, ZVs, and vacation of easements, would be required for this alternative.

Table 6-1, *Summary of Alternatives to the Project*, provides a summary of the relative impacts and feasibility of each alternative. The impact analysis for each alternative is provided in **Section 6.7**, *Impact Analysis*.

TABLE 6-1: SUMMARY OF DEVELOPMENT ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction, operation and maintenance, and eventual decommissioning of a 9,200 MWh capacity BESS facility on approximately 120 acres. Electricity would be transferred between the BESS facility and the regional grid via two tie-line routes to the SCE Whirlwind Substation. Approval of ZCCs, CUPs, a ZV, and Nonsummary Vacation would be required.	• N/A
Alternative 1: No Project Alternative	No development would occur on the project site. The project site would remain unchanged.	• Required by CEQA. • Avoids need for ZCCs, CUPs, ZVs, and vacation of easements. • Avoids all significant and unavoidable impacts. • Would not have the potential to offset greenhouse gas (GHG) emissions from the operation of an energy storage facility. • Less impact in all remaining environmental issue areas.

Alternative	Description	Basis for Selection and Summary of Analysis
		• Does not meet any of the project proponent's project objectives.
Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative	Project site would be developed to the maximum intensity allowed under existing Kern County General Plan or Willow Springs Specific Plan land use designations and zoning classifications and other existing applicable allowances.	• Avoids need for ZCCs, CUPs, ZVs, and vacation of easements • Reduces impacts to aesthetics, agriculture and forestry resources, and land use and planning. • Similar impacts to biological resources, geology and soils, mineral resources, noise, public services, and wildfire. • Greater overall impacts to all other resource topics. • Would not eliminate or substantially lessen significant and unavoidable impacts associated with air quality (project criteria pollutants only and cumulative), biological resources (project WJT only and cumulative), or wildfire (cumulative only). • Does not meet any of the project proponent's project objectives.
Alternative 3: Reduced Footprint Alternative	Eliminating the West BESS area from development would reduce the project site from approximately 120 acres to approximately 70 acres and the project's total energy storage capacity by up to 450 MW (from 1,150 MW to 700 MW). The same discretionary entitlements requested for the project would be required for this alternative.	• Similar impacts related to land use and planning, and wildfire. • Greater energy and GHG emissions impact as lower renewable energy storage contribution would offset less GHG emissions. • Reduces impacts in all remaining environmental issue areas. • Would not eliminate or substantially lessen any significant and unavoidable impacts associated with aesthetics (cumulative only), biological resources (project WJT only and cumulative), or wildfire (cumulative only). • Would reduce contributions to State GHG objectives and SCE's renewable energy storage capacity goals, would not be as cost effective, would not completely minimize the need for new infrastructure to connect the storage capacity to the grid, and would not support Kern County's economy to the greatest extent. • Partially meets the project proponent's project objectives.

6.5 Alternatives Considered and Rejected

Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce any significant environmental effects (CEQA Guidelines, Section 15126.6[c]). Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, also do not need to be considered (CEQA Guidelines, Section 15126[f][2]).

Kern County considered several alternatives to reduce impacts to aesthetics (cumulative impacts only), air quality (project criteria pollutants only and cumulative impacts), biological resources (project WJT only and cumulative impacts), and wildfire (cumulative impacts only). Per CEQA, Kern County, as 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 Draft EIR because they do not meet project objectives and/or were infeasible, and/or do not avoid or substantially reduce significant environmental effects.

Alternative Site

The Alternative Site Alternative would involve developing the project on a different parcel or group of parcels within Kern County, rather than on the proposed project site. Although a specific location has not been identified at this time, the alternative project site would likely be situated within the Antelope Valley region of Kern County. Similar to the proposed project, this alternative is assumed to include the construction, operation and maintenance, and eventual decommissioning of a BESS facility with equivalent storage capacity of 9,200 MWh on approximately 120 acres. The alternative would also require one or more tie-lines connecting to the Whirlwind Substation or another existing substation within SCE's service area.

CEQA Guidelines Section 15126.6(f)(2(a) states that the key and initial step in considering an alternative site is whether "any of the significant effects of the project would be avoided or substantially lessened" in relocating the project, while remaining consistent with the same basic objectives of the project. The Antelope Valley has attracted renewable energy development and BESS facility applications that are being proposed for vacant land or land with a history of agricultural uses. Although other sites of comparable size, configuration, and use history may exist in the region, development of a BESS facility with similar characteristics would likely result in environmental impacts comparable or greater than those of the proposed project, including potentially significant and cumulatively considerable impacts related to aesthetics, biological resources, and wildfire. This is based on the known general conditions in the area and the magnitude of the project.

The project's location immediately north of the Whirlwind Substation minimizes the length of required tie-lines and limits the number of associated tie-line poles and other aboveground infrastructure. By contrast, an alternative site may require longer tie-line corridors and a larger disturbance footprint, increasing the potential for impacts on aesthetics, biological resources, and other environmental resources. Accordingly, an alternative site would not be expected to substantially lessen the significant environmental impacts of the project while meeting the project objectives. In addition, an alternative site for the project is not considered "potentially feasible" because there are no suitable sites within the project proponent's control that would reduce project impacts.

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

Alternative Technology Alternative

The Alternative Technology Alternative considers delivering the project's required energy storage capacity using alternative battery chemistries or energy storage technologies in place of lithium-ion (Li-ion), as proposed by the project. It is assumed that this alternative would maintain the same interconnection configuration and would remain consistent with the project footprint size. For instance, in terms of their energy and power density, size (energy/power rating capacity), discharge time, storage duration, self-discharge rate, depth of discharge, response time, lifetime, application, and storage cost (capital, operation, and maintenance cost).

There are different types of energy storage systems that can be appropriate for specific applications based on their unique characteristics. Candidate technologies considered as part of this alternative and a detailed discussion of each is provided below.

- Iron-air batteries;
- Sodium-ion batteries, and
- Compressed air energy storage systems.

Iron-Air Batteries

Iron-air battery technology is continuing to evolve, with the first pilot project currently being proposed by Form Energy, Inc. as a demonstration energy storage project in response to a request for proposals from the Energy Commission (CEC) for non-lithium long-duration storage projects. The demonstration project, the East Road Storage Project, would be located in the community of Redwood Valley, in Mendocino County, California. In response to AB 205, the California Energy Commission established the Long Duration Energy Storage (LDES) program and received $330 million in state funding to advance the scale-up and commercial deployment of emerging LDES technologies (CEC 2023a). Despite these efforts, iron-air battery technology has not yet been widely deployed in utility-scale applications and is generally selected less frequently than Li-ion systems for several reasons, including lower efficiencies, longer discharge durations, and increased land requirements.

Although no battery technology is 100 percent efficient, iron-air battery systems typically have a discharge efficiency of approximately 50 percent, compared to approximately 80 percent for most Li-ion battery systems (Fraunhofer n.d., Wind & Sun 2023). As such, iron-air systems require more energy input to deliver an equivalent amount of delivered end-user electricity.

Iron-air batteries provide long-duration energy storage and can discharge energy continuously into the grid over multiple days. However, these capabilities also require longer recharge durations. The East Road Storage Project is stated to require approximately 63 hours to fully recharge (CEC 2025a), whereas Li-ion batteries require less than 10 hours and provide approximately 12 hours of storage capacity (USDOE 2023a).

Iron-air systems also require substantially larger sites than Li-ion systems. As an illustrative example, the East Road Storage Project would provide 500 MWh of storage capacity on approximately 29 acres (CEC 2023a), which is equivalent to approximately 17 MWh per acre. Applying this ratio to the proposed project suggests that the proposed 9,200 MWh project would require approximately 534 acres to implement an iron-air battery system with the same storage capacity. Although the actual land requirements would depend on the site configuration, battery specifications, and other relevant factors, this general comparison indicates that the implementation of an iron-air battery system could require a substantially larger

development footprint, potentially leading to greater ground disturbances and associated environmental impacts, including biological resources.

While iron-air battery systems may be applicable for long-duration energy storage, they would not be suitable for the proposed project due to electrical inefficiencies, longer recharging requirements, and greater development footprints. Although the technology continues to emerge and evolve, it is not well established and proven for utility-scale technology, and it is unknown whether it would be an economically feasible, reliable, and commercially financeable alternative. Furthermore, assuming this type of battery system would require a greater development footprint, it would not substantially lessen the significant impact of the project.

Sodium-Ion Batteries

Sodium-ion batteries function similarly to Li-ion batteries and may offer certain advantages, such as the abundance of sodium as a source material and lower operational temperatures (IMI 2025). However, several factors limit the feasibility of this technology for the proposed project, including limited commercial-scale deployment, constrained manufacturing technologies, and lower energy density relative to Li-ion batteries.

Although grid-scale testing and pilot projects have advanced, sodium-ion battery technology remains a relatively immature commercial technology at this time. Manufacturing efforts in the U.S. are limited compared to the research and production activities in China and Europe, thereby resulting in relatively little production data and progress for projects in the U.S. (USDOE 2023b). In addition, the scalability of materials, such as high-performance cathodes and anodes, remains a challenge. Global production of Li-ion batteries reached around 1,500 gigawatt-hours in 2025, whereas sodium-ion battery production totaled 11 gigawatt-hours, representing less than one percent of Li-ion production (IMI 2025). This disparity emphasizes the substantial gap in technological maturity and market adoption of Li-ion technology, despite the potential advantages sodium-ion technology has in certain applications.

Due to the larger size of the sodium-ion compared to the Li-ion, and the slightly smaller reduction potential of sodium, it is generally expected that sodium-ion batteries will be less energy dense than Li-ion batteries (DOE n.d.). Because sodium-ion batteries are less dense, larger-sized units or additional units are required to deliver the same amount of energy; thereby requiring a larger development footprint (DOI 2023).

While sodium-ion battery systems may be applicable in certain situations or more viable in the future, they would not be suitable for the proposed project due to the current uncertainty in supply chain sustainability and feasibility, technological uncertainties and ongoing development, and greater development footprints. Furthermore, the larger development footprint required to achieve comparable storage capacity would not substantially reduce the significant environmental impacts of the project.

Compressed Air Energy Storage

Compressed air energy storage systems are a form of mechanical energy storage that uses electricity to compress and store ambient air for later use. The systems store energy by using surplus electrical energy to operate air compressors that store high-pressure air into underground caverns or large vessels. The compressed stored air is later released through an air-powered turbine to regenerate the stored electrical energy for later release through an air-powered turbine (City of Glendale Water and Power 2022). While Compressed air energy storage systems show promise for a clean storage medium that is scalable, durable, and has a long lifetime, the main drawbacks are lower round-trip efficiency and energy density, and high response times (Bazdar et al. 2022). In addition, compressed air energy storage systems require unique subsurface geologic characteristics or conditions for site feasibility.

Under ideal conditions, large-scale compressed air energy storage systems operate at an efficiency of approximately 70 percent; however, in practice, existing compressed air energy storage systems have a much lower energy efficiency of 42% (Huntorf, Germany) and 54% (McIntosh, Michigan, U.S.). This is due to compressed air energy storage systems' lower energy and power density (Rabi et al. 2023; Bazdar et al. 2022). Due to differences in energy efficiency, the project would require a larger footprint to accommodate additional compressed air energy storage systems and to accommodate the energy needs of the proposed project. As an illustrative example, the Willow Rock Energy Storage Center would provide 4,000 MWh net of storage capacity on approximately 88.6 acres, which is equivalent to approximately 45 MWh per acre (CEC 2025b). Applying this ratio to the proposed project suggests that the proposed 9,200 MWh project would require approximately 204 acres to implement a compressed air energy storage system with the same storage capacity. Although the actual land requirements would depend on the site configuration, compressed air energy storage technology, and other relevant factors, this general comparison indicates that the implementation of a compressed air energy storage system could require a substantially larger development footprint, potentially leading to greater ground disturbance and associated environmental impacts, including biological resources and air quality.

Compared to other energy storage systems, compressed air energy storage systems have a higher response time, making them unsuitable for providing power quality and voltage/frequency regulation services, like that required by the project (Bazdar et al. 2022). The high response times can be attributed to the mechanical processes, like switching between compression and expansion phases when charging and discharging, that limit the technology providing responsive outputs (NREL 2021). Unlike compressed air energy storage systems, Li-ion batteries have a much faster response time that would allow for rapid changes in output to better accommodate the needs of the local electrical grid.

Additionally, compressed air energy storage systems require specific subsurface geological conditions. These conditions are not expected to be present at the proposed project site and would likely require additional geological evaluations that have not been completed for the proposed project.

While compressed air energy storage systems may be applicable in certain applications, they would not be suitable for the proposed project due to lower round-trip efficiency and energy density, high response times, and unique subsurface geologic characteristic requirements.

Summary

Li-ion BESS technology is the most extensively tested and regulated utility-scale energy storage technology currently available. The project is designed and would be constructed in compliance with Kern County Fire Department requirements for BESS facilities and the National Fire Protection Association (NFPA) Standard 855 requirements. NFPA 855 establishes installation and fire safety requirements specifically for stationary energy storage systems. Fire risks associated with Li-ion thermal runaway are understood, and the applicable code framework, including required suppression systems, separation distances, ventilation, and emergency response protocols, has been developed precisely to address those risks at the utility scale.

While non-lithium BESS technologies are progressing, the scalability, cost, and storage durations are limiting factors from making them a feasible alternative to the proposed Li-ion BESS facility being proposed. Therefore, this alternative fails to meet the project objectives, is geologically infeasible (for compressed air energy storage systems only), and does not avoid or substantially reduce any significant environmental effects.

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 applicant-submitted project objectives identified in **Chapter 3**, *Project Description*, of this Draft 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 Draft 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 project with the impacts of each of the alternatives analyzed. Please note that in Alternatives 1 through 3 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	Project	Alternative 1: No Project Alternative	Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative	Alternative 3: Reduced Footprint Alternative
Aesthetics	Less than significant with mitigation (project only)	Less (NI)	Less (LTS)	Less (SU)
	Significant and unavoidable (cumulative only)	Less (NI)	Less (LTS)	Less (SU)
Agriculture and Forestry Resources	Less than significant	Less (NI)	Less (LTS)	Less (LTS)
Air Quality	Less than significant with mitigation (project only; except for criteria pollutants)	Less (NI)	Greater (LTS)	Less (LTS)
	Significant and unavoidable (cumulative only)	Less (NI)	Greater (SU)	Less (LTS)
Biological Resources	Less than significant with mitigation (project; except for WJT)	Less (NI)	Similar (SU)	Less (SU)
	Significant and unavoidable (project WJT only and cumulative)			
Cultural Resources	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)
Energy	Less than significant	Less (NI)	Greater (LTS)	Greater (LTS)
Geology and Soils	Less than significant with mitigation	Less (NI)	Similar (LTS)	Less (LTS)
Greenhouse Gas Emissions	Less than significant	Greater (LTS)	Greater (LTS)	Greater (LTS)
Hazards and Hazardous Materials	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)
Hydrology and Water Quality	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)
Land Use and Planning	Less than significant with mitigation	Less (NI)	Less (NI)	Less (LTS)
Mineral Resources	Less than significant	Less (NI)	Similar (LTS)	Similar (LTS)
Noise	Less than significant with mitigation	Less (NI)	Similar (LTS)	Less (LTS)
Public Services	Less than significant with mitigation	Less (NI)	Similar (LTS)	Less (LTS)

Environmental Resource	Project	Alternative 1: No Project Alternative	Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative	Alternative 3: Reduced Footprint Alternative
Transportation	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)
Tribal Cultural Resources	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)
Utilities and Service Systems	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)
Wildfires	Less than significant with mitigation (project)	Less (NI)	Similar (LTS)	Similar (LTS)
	Significant and unavoidable (cumulative only)	Less (NI)	Similar (SU)	Similar (SU)
Meet Project Objectives?	All	None	None	Partially
Reduce the Project's Significant and Unavoidable Impacts?	N/A	All	Some	Some

6.7 Impact Analysis

Alternative 1: No Project Alternative

Environmental Impact Analysis

Aesthetics

Under the No Project Alternative, the project site would remain in its existing undeveloped condition, and no construction, operation and maintenance, or decommissioning activities would occur. As such, the existing visual character and quality of the site would remain unchanged, and no new sources of light or glare would be introduced. Therefore, the No Project Alternative would result in no impact on aesthetics and would have fewer impacts than the project.

Agriculture and Forestry Resources

Under the No Project Alternative, the project site would remain undeveloped, and the BESS facility and tie-lines would not be installed. The project site would remain in its current state, as undeveloped desert habitat. As such, the No Project Alternative would not involve changes to the existing environment that could result in the conversion of farmland or forest land to nonagricultural or nonforest uses, or conflict with existing agricultural-related zoning or contracts. Therefore, there would be no impact, and the No Project Alternative would result in less impact related to agriculture and forestry resources compared to the project.

Air Quality

Under the No Project Alternative, the project site would remain undeveloped, and there would be no construction, operation, or decommissioning-related activities that would generate air pollutant emissions, nor would the No Project Alternative conflict with applicable air quality plans, contribute to a cumulative net increase of criteria pollutants in the region, or expose sensitive receptors to substantial pollutant concentrations. Therefore, there would be no impact, and the No Project Alternative would result in less impact related to air quality compared to the proposed project.

Biological Resources

Under the No Project Alternative, the existing biological resources on the project site, including habitat for special-status plant and wildlife species, would remain in their current state as undeveloped land containing desert vegetation. The alternative would not contribute to a cumulative loss of habitat for wildlife species known to occur or with potential to occur on the project site; interfere with wildlife corridors; conflict with local policies or ordinances protecting biological resources; or conflict with provisions of an adopted Conservation Plan. Therefore, there would be no impact, and the No Project Alternative would result in less impact related to biological resources compared to the project.

Cultural Resources

Under the No Project Alternative, the project site would remain undeveloped, and no ground-disturbing activities would occur. Therefore, disturbance to potential historical resources, archeological resources, or human remains potentially located on-site would not occur. Therefore, there would be no impact, and the No Project Alternative would result in less impact related to cultural resources compared to the project.

Energy

Under the No Project Alternative, the project site would remain undeveloped, and no new 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. Although the No Project Alternative would not create new, direct energy-related impacts, it would not support the goals of the Renewable Portfolio Standard (RPS). Therefore, there would be no impact, and the No Project Alternative would result in less impact related to energy compared to the project.

Geology and Soils

Under the No Project Alternative, the project site would remain undeveloped, and no ground disturbance would occur. As such, the No Project Alternative would not directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, and landslides; result in substantial soil erosion or loss of topsoil; result in onsite or offsite landslides; be located on expansive soil; the project being incapable of supporting the use of alternative wastewater disposal systems; or directly or indirectly destroy a unique paleontological resource or unique geologic feature. Therefore, there would be no impact, and the No Project Alternative would result in less impact related to geology and soils compared to the project.

Greenhouse Gas Emissions

Under the No Project Alternative, emissions associated with the construction, operation and maintenance, and decommissioning of the proposed BESS facility would not occur. Consequently, direct project-generated greenhouse gas (GHG) emissions would be eliminated, and this alternative would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. However, the potential for the project to facilitate integration of renewable energy resources and offset GHG through the operation of the BESS facility would not be realized. Therefore, although GHG impacts under the No Project Alternative would be less than significant, this alternative would result in greater GHG impacts relative to the project because it would not provide the project's potential GHG reduction benefits.

Hazards and Hazardous Materials

Under the No Project Alternative, the project site would remain undeveloped and in its current condition, and no new construction, operation and maintenance, or decommissioning activities would occur. As such, this alternative would not involve the routine transport, use, or disposal of hazardous materials associated with development of the project site; create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; emit hazardous emissions or handling of hazardous materials within a quarter-mile of an existing or proposed school; result in a safety hazard or excessive noise for people residing or working in the project area for a project located within the vicinity of a private airstrip; impair implementation of or interfere with an emergency response plan or emergency evacuation plan; expose people or structures to significant risk of loss, injury, or death involving wildland fires; or generate vectors or have a component that includes agricultural waste. Because none of the hazards or hazardous materials associated with implementation of the project would occur, the No Project Alternative would result in no impact and have fewer hazards and hazardous materials impacts than the project.

Hydrology and Water Quality

Under the No Project Alternative, the project site's existing hydrology and water quality would remain unchanged as no development or ground disturbance would occur on the project site. As such, this alternative would not: violate water quality standards or waste discharge requirements; substantially alter the existing drainage patterns of the site or area in a manner that would result in substantial erosion and/or sedimentation onsite or offsite, or result in flooding onsite or offsite; create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage system; impede or redirect flood flows; 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, the No Project Alternative would have no impact related to hydrology and water quality and would result in less impacts compared to the project.

Land Use and Planning

The No Project Alternative would not develop any new uses at the project site and would therefore not require ZCCs, CUPs, ZVs, or vacation of easements. As such, the No Project Alternative would not physically divide an established community or 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, the No Project Alternative would result in no impacts related to land use and planning and would result in less impacts compared to the project.

Mineral Resources

Under the No Project Alternative, the project site would remain undeveloped, and no ground disturbance would occur. There are no mineral resources on the project site. As such, the No Project Alternative would not result in the loss of availability of a known mineral resource that would be of value to the region, or of a locally important mineral resource recovery site delineated on a local General Plan, Specific Plan, or other land use plan. Therefore, the No Project Alternative would have no impact on mineral resources, and would result in similar impacts compared to the project.

Noise

Under the No Project Alternative, the project site would remain undeveloped. Noise sources from construction, operation and maintenance, and decommissioning 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, generate excessive ground-borne vibration, or expose people residing or working in the project area to excessive noise levels. Therefore, the No Project Alternative would have no impact related to noise, and would result in less impacts compared to the project.

Public Services

Under the No Project Alternative, the project site would remain undeveloped, and no new demand for fire or police protection services, or 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, the No Project Alternative would have no impact related to public services, and would result in less impacts compared to the project.

Transportation

Under the No Project Alternative, the BESS facility would not be constructed and would not introduce any new construction, operation and maintenance, or decommissioning-related vehicle trips. Existing traffic patterns and volumes on nearby roadways would remain unchanged. As such, the No Project Alternative would not conflict with a program, plan, ordinance, or policy addressing the circulation system conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b); substantially increase hazards due to a geometric design feature; or result in inadequate emergency access. Accordingly, the No Project Alternative would have no impact on transportation-related resources, and would result in less impacts compared to the proposed project.

Tribal Cultural Resources

Under the No Project Alternative, the project site would remain undeveloped, and no ground-disturbing activities would occur. As such, the No Project Alternative would not cause a substantial adverse change in the significance of a tribal cultural resource 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 PRC 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 impact related to tribal cultural resources compared to the project.

Utilities and Service Systems

Under the No Project Alternative, a battery energy storage system would not be constructed, and there would be no new demand for utilities and service systems at 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, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects; generate solid waste in excess of state or local standards; or conflict with federal, State, and local management and reduction statutes and regulations related to solid waste. Therefore, there would be no impact, and the No Project Alternative would result in less impact related to utilities and service systems compared to the project.

Wildfires

Under the No Project Alternative, an energy storage system and associated tie-lines would not be constructed. As such, the No Project Alternative would not substantially impair an adopted emergency response plan or emergency evacuation plan; 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 fewer impacts related to wildfires compared to the proposed project.

Comparison of Impacts

The No Project Alternative would avoid the significant and unavoidable impacts associated with implementation of the project and would generally result in fewer environmental impacts across most resource areas. However, impacts related to GHG emissions would be greater than those of the project because this alternative would not provide an energy storage facility capable of supporting the integration of renewable energy, thereby reducing GHG emissions. Impacts related to mineral resources would be similar to those of the project. No known mineral resources have been identified on the project site or

within the immediate vicinity; therefore, neither the project nor the No Project Alternative would result in impacts on mineral resources.

Relationship to Applicant-Submitted Project Objectives

The No Project Alternative would not achieve any of the project objectives listed above in **Section 6.2** ("Applicant-Submitted Project Objectives"), including the project objective related to assisting California in meeting obligations under California's Renewable Portfolio Standard Program relating to increases in energy storage capacity. Although this alternative would create less environmental impacts overall, the objectives that shape the project would not be realized under this alternative.

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

Environmental Impact Analysis

Aesthetics

Under Alternative 2, the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located.

The General Plan/Specific Plan and Zoning Build-Out Alternative would develop the project site into various uses allowable for agricultural and residential development. An energy storage system and tie-lines would not be installed on the site. Under this alternative, there would be no zone classification changes, and development of the project site under existing land use and zoning classifications 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. Therefore, impacts on aesthetics would be less than significant, and the General Plan/Specific Plan and Zoning Build-Out Alternative would result in less impacts on aesthetics when compared to the proposed project.

Agriculture and Forestry Resources

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system and tie-lines would not be installed on the site. As noted in **Section 4.2**, *Agriculture and Forestry Resources*, the project site is not under a Williamson Contract or on land designated as important farmland by the California Department of Conservation (DOC) and, therefore, development under this alternative would not conflict with a Williamson Act contract. Furthermore, development under this alternative would be consistent with the existing zoning and would not require a CUP, and the portions of the project site designated as A (Exclusive Agriculture) would remain. Therefore, impacts would be less than significant under the General Plan/Specific Plan and Zoning Build-Out Alternative, and this alternative would result in less impacts on agricultural resources compared to the proposed project.

Air Quality

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system would not be installed on the site.

Similar to the proposed project, implementation of the General Plan/Specific Plan and Zoning Build-Out Alternative would generate short-term construction emissions and would require implementation of mitigation measures to reduce the severity of construction-related emissions. Development under this alternative would likely implement special development standards and/or conditions of approval similar to **MM 4.3-1** through **MM 4.3-5** (see **Section 4.3**, *Air Quality*), including compliance with the East Kern Air Pollution Control District rules and regulations, preparation of a Site-Specific Fugitive Dust Control Plan, implementation of BMPs, public notification of construction activities, and designation of a construction coordinator. However, development to the maximum intensity permitted under existing land use and zoning regulations could result in a greater extent and duration of construction-related emissions than the proposed project. Accordingly, temporary project-level and cumulative construction emissions could exceed those associated with the proposed project, resulting in greater construction-related air quality impacts.

Operational emissions associated with the maximum intensity allowed under existing land use and zoning classifications under the General Plan/Specific Plan and Zoning Build-Out Alternative would likely be similar or greater due to routine emissions from residential uses, agricultural, and other allowable land uses, including vehicle trips, area sources, agricultural equipment, ongoing ground disturbance, and livestock-related emissions. Although operational emissions under this alternative would be greater than those of the proposed project, they would remain less than significant.

With respect to consistency with applicable air quality plans, since temporary project-level and cumulative construction impacts would be greater than the project, this alternative could delay or impede progress toward attainment of regional air quality goals and objectives established by the Eastern Kern Air Pollution Control District. Therefore, impacts would be significant and unavoidable.

Development under this alternative could expose sensitive receptors to pollutant concentrations during construction. In particular, construction activities associated with grading and heavy earthworks could expose on-site employees to localized sources of PM_{10} and Valley Fever as fugitive dust is generated during construction. However, dust-minimizing techniques, as implemented via **MM 4.3-1** through **MM 4.3-6**, and fees to the Valley Fever public awareness program, as implemented through **MM 4.3-7**, would minimize these impacts. Additionally, **MM 4.3-8** would require implementation of a COVID-19 Health and Safety Plan. As with the project, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in significant and unavoidable localized air pollutants during construction. Impacts during operation would be less than significant.

Overall, even with the implementation of similar mitigation proposed for the project, impacts to air quality under the General Plan/Specific Plan and Zoning Build-Out Alternative would likely remain significant and unavoidable for cumulative construction impacts and result in greater overall impacts to air quality than the proposed project due to the greater operational emissions associated with agricultural uses.

Biological Resources

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General

Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system and tie-lines would not be installed on the site.

Due to the residential component of the General Plan/Specific Plan and Zoning Buildout Alternative, similar to the proposed project, development would occur under this alternative and, as such, there is the potential to impact biological resources. Ground-disturbing activities would increase in intensity to facilitate clearing of land and grading, especially for foundations required for residential development. Conversion of the undeveloped site to agricultural uses would affect biological resources on the project site, as this alternative would replace native vegetation with agricultural crops or grazing areas. Residential and agricultural uses would also result in increased human presence as opposed to an energy storage facility with limited staff required for operations and maintenance.

Single-family dwellings developed under this alternative would be distributed across the project site. Given the space, it is likely that impacts on biological resources, particularly on WJTs, would be affected by the project, but to a lesser extent. Similar to the proposed project, however, this alternative would have the potential to directly and indirectly affect special status plant and wildlife species, and habitat regulated by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS). Development under this alternative would be required to implement applicable regulations, development standards, and conditions of approval, similar to those of the proposed project. Compliance with these regulations and requirements would reduce impacts to less than significant. However, eligible ministerial development (for example, agricultural activities) would not be subject to CEQA environmental impact analysis and consequent protection measures regarding 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 the CDFW or USFWS, construction activities could result in significant impacts related to potential jurisdictional features on ephemeral drainages within the project site. However, as with the project, implementation of mitigation measures would reduce impacts to less than significant.

Implementation of the above-referenced mitigation measures would also reduce potential impacts related to the movement of resident or migratory wildlife species or with established resident or migratory wildlife corridors, and consistency with local policies and ordinances protecting biological resources. The General Plan/Specific Plan and Zoning Build-Out Alternative, as with the 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/Specific Plan and Zoning Build-Out Alternative would be less than significant and similar to those of the proposed project. However, cumulatively, this alternative would still result in significant and unavoidable impacts on biological resources; regardless of the type of development, biological resources would be impacted throughout the Antelope Valley. Therefore, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in similar impacts on biological resources when compared to the proposed project.

Cultural Resources

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system and tie-lines would not be installed on the site.

While the specific type and location of future development under this alternative remains uncertain, the range of permitted uses could result in varying levels of impact on cultural resources, as some uses may involve more substantial ground-disturbing activities than others. For example, crop cultivation is unlikely to involve substantial ground disturbance in previously undisturbed areas, whereas structural development may involve grading and other ground-disturbance activities at depths involving previously undisturbed soils. Although future ministerial uses would be consistent with state and local policies, future development would not be subject to CEQA processes (for example, mitigation measures for cultural resources not involving human remains or avoidance of prehistoric archaeological sites) that would provide additional protection measures regarding cultural resources. Therefore, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in greater impacts compared to the proposed project. Impacts are conservatively considered to be significant and unavoidable.

Energy

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system and tie-lines would not be installed on the site.

The portions of the project site that would be developed with agricultural uses would require less-intensive construction activities related to the consumption of transportation-related energy (petroleum-based fuels). However, greater operational electricity usage associated with the greater consumption of water associated with agricultural uses would occur. The portions of the project site that would be developed with single-family residences would require similar construction activities, but operational activities would likely result in similar energy demands as the proposed project. Nonagricultural uses under the General Plan/Specific Plan and Zoning Build-Out Alternative would likely implement development standards and/or conditions of approval similar to **MM 4.3-3** (see **Section 4.3**, *Air Quality*), which require implementation of emission control measures. As such, the amount of petroleum consumed as a result of vehicular trips to and from the project site during operation would decrease over time, and the wasteful, inefficient, or unnecessary consumption of energy resources would be less than significant under this alternative. Furthermore, similar to the proposed project, the General Plan/Specific Plan and Zoning Build-Out Alternative would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Based on the above, impacts under the General Plan/Specific Plan and Zoning Build-Out Alternative related to energy would be less than significant, but greater than those of the project because the alternative would not support the goals and objectives of the RPS to the same extent as the proposed project.

Geology and Soils

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system and tie-lines would not be installed on the site.

When compared to the proposed project, the General Plan/Specific Plan and Zoning Buildout Alternative would have a greater potential for exposure of people to seismic hazards because the alternative would introduce a permanent residential population on the project site, whereas the proposed project would not.

Similar to the proposed project, the General Plan/Specific Plan and Zoning Buildout 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/Specific Plan and Zoning Build-Out Alternative would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Kern County has adopted the California Building Code (CBC) 2022 Edition (California Code of Regulations [CCR] Title 24). Adherence to all applicable regulations, as well as implementation of **MM 4.7-1** and **MM 4.7-2**, would ensure that any potential effects from strong seismic ground shaking would be minimized. Construction of septic systems under this alternative would be required to obtain all required permits, approvals, and conditions of approval for the design and siting of septic systems to reduce potential impacts relating to alternative wastewater disposal systems.

Similar to the proposed project, ground-disturbing activities associated with development under the General Plan/Specific Plan and Zoning Build-Out Alternative could result in impacts to unique paleontological resources. As such, the General Plan/Specific Plan and Zoning Build-Out Alternative would implement development standards/conditions of approval similar to **MM 4.7-4** through **MM 4.7-7** to reduce potential impacts on paleontological resources.

As discussed above, with the implementation of development standards and conditions of approval similar to the mitigation measures required for the proposed project, impacts related to geology and soils would likely be less than significant and similar to the impacts associated with the proposed project.

Greenhouse Gas Emissions

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs) in which the project is located. An energy storage system and tie-lines would not be installed on the site.

The General Plan/Specific Plan and Zoning Build-Out Alternative would develop land uses that would emit GHG emissions from increased traffic, water usage, operation of agricultural equipment, and livestock emissions. Although development under this alternative would likely implement development standards and/or conditions of approval, it could contribute to cumulative GHG emissions that have a significant impact related to climate change, or would be inconsistent with at least certain GHG reduction measures set forth in an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Furthermore, this alternative would not provide potential emission reduction benefits, thereby foregoing potential offsets that would support GHG reduction goals, consistent with the California RPS. Therefore, the General Plan/Specific Plan and Zoning Build-Out Alternative would make a cumulatively considerable contribution to significant impacts related to GHG emissions and would result in greater impacts as compared to the proposed project.

Hazards and Hazardous Materials

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system and tie-lines would not be installed on the site.

Future permitted uses under this alternative may involve the use, transport, and disposal of hazardous materials that, if not handled properly or are released accidentally, could create a significant hazard to the public (for example, nearby residences and employees). For example, future agricultural operations may involve increased use of pesticides and herbicides, animal husbandry activities may use veterinary pharmaceuticals (for example, antibiotics and vaccines), and oil and gas production facilities may involve

toxic and flammable substances. However, this alternative would be required to comply with applicable state and local regulations to ensure all hazardous materials used or found on site are transported, handled, stored, and disposed of appropriately. Additionally, standard best management practices (BMPs) would be implemented to reduce pollutants from contacting stormwater and to ensure appropriate debris and waste management during construction and operation.

Similar to the proposed project, the General Plan/Specific Plan and Zoning Build-Out Alternative would be located within the military flyover area and the Joint Service Restricted R-2508 Complex of the Edwards Air Force Base. The project site overlaps with the military review area for all structures over 500 feet. However, as it is unlikely residential or agricultural structures would exceed 500 feet in height, such military review would not be required. In addition, this alternative would not have the potential to impair an adopted emergency response plan or emergency evacuation plan. Development standards and/or conditions of approval may require the implementation of a fire safety plan or construction traffic control plan, thereby minimizing potential impacts on emergency access. Similarly, development standards and/or conditions of approval may be required similar to **MM 4.1-3** and **MM 4.14-1**, which include the preparation of a Landscape Revegetation and Restoration Plan and Fire Safety Plan for construction and operation of the proposed project in the event of a fire on the project site.

Unkempt agricultural and residential developments under the General Plan/Specific Plan and Zoning Build-Out Alternative could generate vectors and produce agricultural waste that may inadvertently create new habitats for disease vectors (for example, flies, mosquitoes, and rodents). While the exact location, type, or number of vectors cannot be determined at this time, vectors that occur in excess have the potential to disseminate from the site and cause detrimental effects on the public health or well-being of the surrounding population. As such, this may result in potentially significant impacts and would result in greater impacts compared to the project.

Overall, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in less than significant impacts regarding hazards and hazardous materials. However, given this alternative would involve new agricultural operations and residential developments that have the potential to increase disease vectors, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in greater, but less than significant, impacts compared to the proposed project.

Hydrology and Water Quality

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system and tie-lines would not be installed on the site.

The conversion of the project site to the maximum intensity allowed under existing land use and zoning classifications would result in similar or greater ground disturbance and erosion potential. However, for those parcels zoned and designated for agricultural uses, agricultural operations under this alternative would likely involve continued ground disturbance from activities such as grazing and plowing, thereby posing a greater threat to water quality. Agricultural operations could also affect groundwater quality with frequent and ongoing application of pesticides or herbicides. However, agricultural activities would be subject to the waste discharge requirements of the State Water Board's Irrigated Lands Regulatory Program, which prevent agricultural discharges from impairing the waters that receive these discharges. Additionally, while the project site exhibits generally flat topography, future ground-disturbing activities and the introduction of impervious surfaces have the potential to alter existing drainage patterns that may lead to erosion,

increased surface runoff, flooding, and exceedance of storm drainage systems (that is, agricultural ditches and culverts). These potential impacts would be addressed with the proposed project's compliance with NPDES General Construction Permit requirements, which require project proponents to prepare a SWPPP and incorporate BMPs to minimize runoff and prevent construction pollutants from contacting stormwater. Implementation of these measures would reduce impacts related to violating water quality standards or waste discharge requirements; substantially altering drainage patterns; and creating or contributing runoff water that would exceed the capacity of existing or planned stormwater drainage systems.

As it relates to groundwater supplies, the General Plan/Specific Plan and Zoning Build-Out Alternative would have greater water demand than the proposed project because agricultural and residential uses are more water-intensive than a BESS facility. Although future development would be required to secure water rights and the source, delivery method, and quantity are unknown, it is assumed that water demand would likely be met through purchasing water production rights and constructing on-site groundwater wells that draw from the Antelope Valley Groundwater Basin (AVGB). Although water demand would be higher under this alternative, it is assumed that development or water-intensive land uses would be required to demonstrate sufficient water supply and would be required to comply with allocations set forth in the recently adopted groundwater sustainability plans for the Kern County groundwater subbasins. Therefore, this alternative would result in greater water demand than the proposed project, but compliance with existing regulations would ensure that development would not result in potentially significant impacts regarding water demand. Furthermore, this alternative would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Both the project and the General Plan/Specific Plan and Zoning Build-Out Alternative would result in less than significant impacts related to hydrology and water quality. However, given that future development under this alternative would involve the General Plan/Specific Plan and Zoning Build-Out Alternative would involve increased agricultural pollutants and demand for groundwater supplies, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in greater impacts compared to the proposed project.

Land Use and Planning

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed in accordance with the land use standards and ministerial uses defined in the KCZO for the Estate (E) and Exclusive Agriculture (A) districts and applicable policies of the KCGP and Willow Springs Specific Plan. Accordingly, development under this alternative would not conflict with any land use plan, policy, or regulation and/or physically divide an established community. Therefore, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in no impacts related to land use and planning and would result in less impacts compared to the proposed project.

Mineral Resources

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system and tie-lines would not be installed on the site.

The site is not located on land designated for mineral resources by the Kern County General Plan or the Willow Springs Specific Plan; therefore, impacts to mineral resources are expected to be similar and less than significant under both the proposed project and this alternative.

Noise

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system and tie-lines would not be installed on the site.

During construction, impacts under this alternative would be similar to the impacts of the 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 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, agricultural and residential uses would generate noise levels similar to 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 temporary increase in ambient noise or ground vibration levels in the vicinity of the project in excess of standards. Accordingly, future development may be required to implement site-specific noise reduction measures consistent with the KCGP Noise Element and, depending on the type of development and/or use, certain noise attenuation measures set forth in the Kern County Code of Ordinances (for example, Title 19, Chapter 19.98, Section 19.98.060.E, which involves noise attenuation measures for oil and gas development and uses). During operation, daily traffic to the project site would increase due to agricultural and residential uses. However, these activities would not be expected to generate significant temporary or permanent increases in ambient noise levels in the vicinity of the project in excess of applicable noise level standards. Both the project and the General Plan/Specific Plan and Zoning Build-Out Alternative would result in noise impacts that are less than significant.

Public Services

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system or tie-lines would not be installed on the site.

While the specific type and location of future development remains uncertain, implementation of this alternative has the potential to increase demand for fire protection and law enforcement services that may necessitate new or expanded government facilities. For example, construction activities may present new fire hazards or security risks, while operational activities may create a slight increase in population that would increase demands on services and warrant new or expanded government facilities. However, similar to the proposed project, future development must comply with the Kern County Building Code and, by reference, California Building and Fire Codes, may require preparation of a Fire Safety Plan, and/or pay development impact fees to fund needed improvements to existing infrastructure to accommodate the new development.

The potential minor increase in population growth at the project site would be attributable to the development of limited new housing (e.g, single-family residences at rural densities and farmworker accommodations). While this slight increase may result in a marginal demand for public safety services related to fire protection and law enforcement, it would not be substantial enough to generate increased demand for other public services, including schools, libraries, or recreational facilities. Therefore, the

General Plan/Specific Plan and Zoning Build-Out Alternative would result in less than significant impacts related to public services and would result in similar impacts compared to the proposed project.

Transportation

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system and tie-lines would not be installed on the site.

Conversion of the project site to residential uses under this alternative would generate construction-related traffic similar to that of the proposed project because development of residential units would likely require similar numbers of construction-related workers and material transport trips. However, once operational, routine vehicle trips associated with residential uses would be greater than the proposed project due to the increased residential population. Given the low density of development allowed under the applicable land use designations and zoning regulations, operational traffic volumes would not be expected to cause roadway segments or intersections to exceed applicable capacity thresholds.

With respect to CEQA Guidelines Section 15064.3(b), vehicle miles traveled (VMT) associated with construction would be temporary and would not result in long-term, permanent changes to the surrounding vehicle transportation system. Operational VMT generated by residential and agricultural uses would exceed that of the proposed project; however, due to the low density of allowable development, VMT associated with this alternative would not be expected to exceed applicable County thresholds. Accordingly, VMT impacts would be less than significant, but greater than those associated with the proposed project.

With regard to geometric design hazards, all new roadways defined in the KCGP Circulation Element would be implemented in compliance with the County's Development Standards (for example, Division 1 – Streets) and any Encroachment Permit requirements from the Kern County Public Works Department Engineering, Surveying, and Permit Service Department.

With regard to emergency access, due to the low density of allowable development, this alternative would likely not cause a significant increase in congestion or significantly worsen the existing service levels at intersection roadways; the General Plan/Specific Plan and Zoning Build-Out Alternative would have a less-than-significant impact on emergency access during construction and operation, similar to the proposed project.

Overall, transportation impacts associated with the General Plan/Specific Plan and Zoning Build-Out Alternative would remain less than significant. However, because residential uses would generate more operational vehicle trips and VMT than the proposed project, transportation impacts under this alternative would be greater than those of the proposed project.

Tribal Cultural Resources

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system and tie-lines would not be installed on the site.

While the specific type and location of future development under this alternative remains uncertain, the range of permitted uses could result in varying levels of impact on tribal cultural resources, as some uses may involve more substantial ground-disturbance than others. For example, certain ministerial uses, such

as crop cultivation, are unlikely to encounter previously undisturbed soils containing tribal cultural resources and would likely result in a less than significant impact. On the contrary, other ministerial uses, such as development, may involve more intensive ground-disturbance activities, including increased grading and excavation depths. Although future ministerial uses would be consistent with state and local policies, future development would not be subject to CEQA processes that would provide additional protection measures regarding tribal cultural resources. Therefore, impacts would remain less than significant under the General Plan/Specific Plan and Zoning Build-Out Alternative but could result in greater impacts when compared to the proposed project.

Utilities and Service Systems

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system and tie-lines would not be installed on the site.

As with the project, conversion of the project site to residential and agricultural uses would require water usage for dust suppression as well as minimal generation of wastewater, usage of electrical power, and telecommunications. The proposed project would not use natural gas; however, conversion of the project site to agricultural and residential uses would require natural gas. In addition, construction of the General Plan/Specific Plan and Zoning Build-Out Alternative would alter stormwater drainage. Depending on the specific type and density of the proposed uses, such land uses could require the relocation or installation of new utility infrastructure, including water, wastewater, and stormwater systems, which could result in greater environmental impacts than would occur from the proposed project. However, individual projects that require new or altered utility infrastructure would be subject to local planning processes and regulations. These include, but are not limited to, demonstrating consistency with relevant General Plan policies and providing documentation, such as will-serve letters, to confirm that utility providers have the capacity and infrastructure to serve the development.

Both the project and the General Plan/Specific and Zoning Build-Out Alternative would result in impacts that are less than significant. However, this alternative would result in greater impacts on utilities and service systems when compared to the proposed project.

Wildfires

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance or Willow Springs Specific Plan) in which the project is located. An energy storage system and tie-lines would not be installed on the site.

As described in **Section 4.18**, *Wildfire*, the project site does not exhibit environmental conditions, such as dense vegetation, prevailing winds, or steep topography, that would exacerbate the spread of wildfire or post-wildfire hazards. The project site is not located in or near a High or Very High Fire Hazard Severity Zone (FHSZ) or within a State Responsibility Area (SRA) and does not have a distant or recent history of wildfire occurrences. In addition, the project site is not located along an identified emergency evacuation route and is not identified in any adopted emergency evacuation plan.

Residential and agricultural uses increase human presence and may introduce additional vegetation, thereby increasing potential wildfire ignition and fuel sources. For example, agricultural uses may introduce additional sources of vegetation that can serve as fuel, while potential future oil and gas facilities may

require new infrastructure improvements that introduce heat sources. Additionally, use of the project site for residential and agricultural uses would result in an increase of residents and employees on the project site, which would further increase potential impacts from wildfire risks. To address these potential impacts, future project proponents may be required to implement mandatory and voluntary wildfire reduction strategies in accordance with the Kern County Fire Code and KCGP Safety Element policies. Furthermore, construction and operation of agricultural and residential uses would be subject to applicable Kern County Fire Department standards related to safety and fire prevention. Nonagricultural uses would be required to implement a Fire Safety Plan that contains procedures and protocols to control a fire emergency, further reducing the risk of the spread of fire.

Based on the above, with implementation of similar mitigation as proposed for the proposed project, impacts related to wildfire risks would remain less than significant at the project level. With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the General Plan/Specific Plan and Zoning Build-Out Alternative and related projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

Comparison of Impacts

The General Plan/Specific Plan and Zoning Build-Out Alternative would result in reduced impacts related to aesthetics, agricultural and forestry resources, and land use and planning when compared to the proposed project. Impacts associated with biological resources, geology and soils, mineral resources, noise, public services, and wildfire would be generally similar to those of the proposed project.

This alternative would result in greater impacts in all remaining environmental resource areas. Air quality impacts would be greater due to routine operational emissions associated with residential uses, agricultural activities, vehicle trips, ongoing ground disturbance, and livestock emissions. Cultural resource impacts could be greater because certain ministerial development activities may not be subject to CEQA processes and therefore may not be required to implement mitigation measures providing additional protection for cultural resources. Energy impacts would be greater because the alternative would not support the goals and objectives of the RPS to the same extent as the proposed project. Similarly, GHG impacts would be greater because the alternative would not provide the energy storage capacity and associated emissions-reduction benefits that support State GHG objectives. Hazards and hazardous materials impacts would be greater due to the potential introduction of residential and agricultural uses that have the potential to increase disease vectors. Hydrology and water quality impacts would be greater due to increased agricultural pollutants and groundwater demand. Transportation impacts would be greater due to increased operational vehicle trips and VMT associated with residential and agricultural uses. Utilities and service system impacts would also be greater due to increased demands for water, wastewater, natural gas, and other utility infrastructure.

The General Plan/Specific Plan and Zoning Build-Out Alternative would not avoid or substantially lessen the significant and unavoidable impacts identified for cumulative air quality, WJTs and cumulative biological resources, or cumulative wildfire impacts. Therefore, although the alternative would reduce impacts in certain resource areas, it would not eliminate the project's significant and unavoidable impacts.

Relationship to Project Objectives

The General Plan/Specific Plan and Zoning Build-Out Alternative would not achieve any of the project objectives listed above in **Section 6.2**, including the project objective related to assisting California in meeting obligations under California's Renewable Portfolio Standard Program relating to increases in energy storage capacity.

Alternative 3: Reduced Footprint Alternative

Environmental Impact Analysis

Aesthetics

Under the Reduced Footprint Alternative, the project would not develop the West BESS area, which reduces the site footprint from approximately 120 acres to approximately 70 acres. Despite the reduced project footprint, this alternative would still involve the development of the North and South BESS areas, including an on-site collector substation, tie-line, and associated infrastructure. Similar to the proposed project, the Reduced Footprint Alternative would implement **MM 4.1-1** through **MM 4.1-5**, which would reduce potential visual impacts. The measures would minimize views of the project by installing view-screening materials and selecting a color palette that would help the project components blend with the natural landscape. However, in combination with other projects, the Reduced Footprint Alternative would contribute to added modifications to the visual landscape, even with the removal of the West BESS. While **MM 4.1-1** through **MM 4.1-5** would be implemented to reduce aesthetic impacts, and other projects in the region would be required to implement similar mitigation measures to reduce impacts, the cumulative conversion of 70 acres of a low-density rural area to an energy storage facility and tie-lines cannot be mitigated to a degree that impacts are no longer significant. As such, similar to the proposed project, cumulative impacts from the change to the visual character of the site would remain significant and unavoidable for the Reduced Footprint Alternative.

As the Reduced Footprint Alternative includes the development of an energy storage facility and tie line, the potential for lighting impacts would be similar to the proposed project. As such, this alternative would implement **MM 4.1-6** to reduce impacts of nighttime lighting. Impacts related to lighting under the Reduced Footprint Alternative site would be less than significant.

The Reduced Footprint Alternative would have less overall impact on aesthetics when compared to the proposed project due to the reduced project size; however, cumulative impacts related to aesthetics would remain significant and unavoidable.

Agriculture and Forestry Resources

Similar to the proposed project, this alternative would not directly or indirectly impact farmland, as there is no designated important farmland within or adjacent to the project site. In addition, according to available data, none of the parcels included as part of the project or any property in the vicinity of the project are subject to a Williamson Act land use contract or would result in the cancellation of an open space contract. Impacts related to agriculture and forestry resources would be less than significant and similar to the proposed project.

Air Quality

Construction of the Reduced Project Footprint would involve the use of construction vehicles, heavy equipment, and worker trips similar to the proposed project, but at a reduced level because grading and

other activities would not occur within the West BESS area. Similar to the proposed project, this alternative would implement **MM 4.3-1** through **MM 4.3-5**, which would reduce project-level air quality construction emissions to less than significant. Operational emissions would also be reduced relative to the proposed project because the smaller facility would require fewer employee and maintenance vehicle trips. As such, operational air quality impacts would remain less than significant and would be less than those of the proposed project.

Similar to the proposed project, construction activities under the Reduced Footprint Alternative would have the potential to expose sensitive receptors to localized concentrations of air pollutants. In particular, grading and earthwork activities would generate fugitive dust emissions, including PM_{10}, and increase the potential for Valley Fever spores. However, because ground-disturbing activities would occur over a substantially smaller area, emissions associated with grading, equipment operation, and haul truck trips would be reduced. Given that the proposed project's PM_{10} emissions only slightly exceed the U.S. Environmental Protection Agency Significant Impact Level, the reduction in disturbance area under this alternative is expected to reduce PM_{10} emissions below the applicable thresholds. In addition, dust-minimizing techniques and fees to the Valley Fever public awareness program (**MM 4.3-6** and **MM 4.3-7**) would further reduce impacts. Therefore, construction-related impacts associated with pollutant concentrations would be less than significant and less than those of the proposed project. Impacts during operation would be less than significant. Furthermore, because emissions would not exceed any applicable threshold, the Reduced Footprint Alternative would not make a cumulatively considerable contribution to a significant cumulative impact on air quality.

Overall, implementation of the Reduced Footprint Alternative would reduce both construction and operational air pollutant emissions compared to the proposed project due to the reduced disturbance footprint and the corresponding reduction in equipment and vehicle trips. As a result, project-level air quality impacts would be less than significant and less than those of the proposed project. Because localized emissions under this alternative would not be expected to exceed applicable significance thresholds, the Reduced Footprint Alternative would not make a cumulatively considerable contribution to a significant cumulative impact. Therefore, impacts related to air quality under the Reduced Footprint Alternative would be less than significant and less than those of the proposed project at both the project and cumulative level.

Biological Resources

Under the Reduced Footprint Alternative, the project would not develop the West BESS area and would reduce the project's footprint from approximately 120 acres to approximately 70 acres. This alternative would involve the development of the North and South BESS areas, including an on-site collector substation, tie-line, and associated infrastructure.

Under the Reduced Footprint Alternative, the project site would be reduced by approximately 60 percent; as such, a substantial portion of the original project site would be omitted, thereby reducing the area where biological resources may be impacted. Therefore, the Reduced Footprint Alternative would have a reduced potential to impact biological resources compared to the proposed project. However, the remaining footprint under this alternative still provides suitable habitat for sensitive plant and wildlife species. To address these potential impacts, **MM 4.4-1** through **MM 4.4-18** would be implemented, as applicable and modified (reduced) in proportion to the actual impacts that would occur in comparison to the proposed project. As such, the Reduced Footprint Alternative would reduce project-level impacts, but a substantial number of WJTs would still be impacted; thus, impacts would remain significant and unavoidable for WJTs.

Overall, the Reduced Footprint Alternative would result in impacts on biological resources that are less than significant and would be less than those of the proposed project. However, similar to the proposed project, the Reduced Footprint Alternative would make a cumulatively considerable contribution to significant cumulative impacts on biological resources.

Cultural Resources

Under the Reduced Footprint Alternative, the project would not develop the West BESS area and would reduce the project's footprint from approximately 120 acres to approximately 70 acres.

Ground-disturbing activities associated with the Reduced Footprint Alternative have the potential to encounter undocumented archaeological resources that could qualify as cultural resources. Similar to the proposed project, the Reduced Footprint Alternative would implement **MM 4.5-1** through **MM 4.5-4**. No known human remains have been identified within or adjacent to the project site. However, in the unlikely event that human remains are inadvertently discovered, implementation of **MM 4.5-5** would ensure that any human remains encountered are appropriately addressed and impacts would be less than significant.

With implementation of mitigation measures similar to those required for the proposed project, potential impacts on cultural resources under this alternative would be less than significant. However, the Reduced Footprint 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 Footprint Alternative, the project would not develop the West BESS area and would reduce the project's footprint from approximately 120 acres to approximately 70 acres. Eliminating approximately 60 percent of the project development would reduce energy use, as a smaller overall BESS facility would be developed compared to that of the proposed project. Given the reduced development footprint, the energy demand required for construction and operational maintenance would be reduced compared to the proposed project. However, the Reduced Footprint Alternative would result in greater impacts regarding long-term energy offsets due to the reduced storage capacity.

Similar to the proposed project, the Reduced Footprint Alternative would be required to comply with federal, state, and local regulations and policies, including, but not limited to, CARB's heavy-duty engine and on-road vehicle standards, and KCGP policies. As such, this alternative would not result in wasteful, inefficient, or unnecessary consumption of energy sources or conflict with applicable energy plans.

For the reasons described above, impacts under the Reduced Footprint Alternative related to energy would be less than significant, but greater than those of the project because the alternative would not support the goals and objectives of the RPS to the same extent as the proposed project.

Geology and Soils

Under the Reduced Footprint Alternative, the project would not develop the West BESS area and would reduce the proposed project footprint from approximately 120 acres to 70 acres; thus, there would be less potential for erosion and exposure to geologic hazards.

Similar to the proposed project, the General Plan/Specific Plan and Zoning Buildout 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 Reduced Footprint Alternative would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Kern County has adopted the CBC 2022 Edition (CCR Title 24). Adherence to all

applicable regulations, as well as implementation of **MM 4.7-1** and **MM 4.7-2**, would ensure that any potential effects from strong seismic ground shaking would be minimized. In addition, with regard to soil erosion and loss of topsoil, the Reduced Footprint Alternative would implement **MM 4.10-1** to prepare a SWPPP incorporating erosion and sediment control BMPs.

Similar to the proposed project, a septic system would be developed for the operation and maintenance building. The proposed septic system is anticipated to be located away from surface drainages and protected from potential surface runoff, in accordance with applicable requirements of the Kern County Environmental Health Services Division. The project operator would be required to satisfy the permit requirements regarding design and siting of the septic system and leach fields in accordance with **MM 4.7-3**.

As with the proposed project, ground-disturbing activities under the Reduced Footprint Alternative could result in impacts on unique paleontological resources. As such, the Reduced Footprint Alternative would implement **MM 4.7-4** through **MM 4.7-7** to reduce potential impacts on paleontological resources.

Overall, the Reduced Footprint Alternative would result in less than significant impacts and fewer impacts associated with 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 Footprint Alternative, the project area would be reduced by approximately 60 percent, from approximately 120 acres to approximately 70 acres. This alternative would also reduce the project's energy storage capacity by approximately 40 percent, from 9,200 MWh to 5,600 MWh. As with the project, the Reduced Footprint Alternative would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. However, because this alternative would provide less renewable energy storage capacity than the proposed project, it would result in a proportionally reduced contribution to the integration and utilization of renewable energy resources and associated GHG emission reductions. Accordingly, GHG impacts would remain less than significant under this alternative, but the alternative would be less effective than the proposed project in supporting GHG reduction objectives due to its reduced energy storage capacity.

Hazards and Hazardous Materials

Under the Reduced Footprint Alternative, the project proponent would develop a reduced project site of 70 acres and install the North and South BESS areas, with one tie-line to the Whirlwind Substation for a total energy storage capacity of 5,600 MWh. Similar to, but to a lesser degree than the proposed project, this alternative would require the routine use, transport, and disposal of hazardous materials that may create a significant hazard to the public or the environment, such as in the event of a spill. Therefore, as with the proposed project, the Reduced Footprint Alternative would be subject to **MM 4.9-1**, which requires the preparation of a Hazardous Materials Business Plan (HMBP), as applicable, pursuant to Article 1 and Article 2 of California HSC 6.95 and in accordance with Kern County Ordinance Code Section 8.04.030. Furthermore, **MM 4.9-2** would still be required to minimize impacts related to the use of pesticides and herbicides. As with the proposed project, impacts would be less than significant after mitigation.

As it relates to wildland fires, the project site is not within or near an area of very high fire hazard. However, similar to the project, the Reduced Footprint Alternative would include BESS components which, while unlikely, can ignite or become damaged by fire and generate fumes and gases that are extremely corrosive. As with the proposed project, the North and South BESS areas would be designed and constructed to

comply with all applicable codes in effect in the County, including NFPA Standards, National Electrical Code, and California Fire Code. In addition, **MM 4.14-1** would be implemented, which includes the development and implementation of a Fire Safety Plan.

While the generation of vectors would be unlikely for the Reduced Footprint Alternative, the alternative would implement **MM 4.1-1** and **MM 4.17-2**, which would require the implementation of a Maintenance, Trash Abatement, and Pest Management Program and a dedicated on-site Waste Disposal and Recycling Coordinator to facilitate waste disposal and recycling.

As described in **Section 4.9**, *Hazards and Hazardous Materials*, of this Draft EIR, the reduced project site is not located within 0.25 miles of a school; is not listed in environmental regulatory databases for hazardous materials sites pursuant to Government Code Section 65962.5; and is not situated within an area governed by the Kern County ALUCP.

Overall, the Reduced Footprint Alternative would result in less than significant impacts with mitigation regarding hazards and hazardous materials. Furthermore, given the reduced development footprint, this alternative would result in less impacts compared to the proposed project.

Hydrology and Water Quality

Under the Reduced Footprint Alternative, the project proponent would develop a reduced project site of 70 acres and install the North and South BESS areas, with one tie-line to the Whirlwind Substation for a total energy storage capacity of 5,600 MWh. By reducing the footprint of the project site by approximately 50 acres, impacts on hydrology and water quality would be lower than the proposed project based on a reduction of ground disturbance, area occupied by project facilities, stormwater collection area and runoff volume, and water demand and use. However, construction, operation, maintenance, and decommissioning activities associated with this alternative could result in significant impacts on surface and groundwater quality. These impacts may arise from the discharge of pollutants, including pesticides, herbicides, automotive fluids, and petroleum products. In addition, ground disturbance and altered drainage patterns associated with this alternative may contribute to erosion and sedimentation, further impairing water quality.

To address potential water quality and soil erosion impacts, the project proponent would be required to implement several mitigation measures. Specifically, per **MM 4.10-1**, the project proponent would prepare and implement a SWPPP in accordance with NPDES Construction General Permit requirements. The SWPPP would incorporate BMPs to control soil erosion and prevent the discharge of construction-related pollutants that could adversely affect water quality. Additionally, **MM 4.10-2** would require the project proponent/operator to complete a hydrologic study and final drainage plan to minimize increases in runoff from the project site. This mitigation measure also requires the project to be designed in accordance with the engineering recommendations provided by the Kern County Public Works Department. These recommendations would ensure that the project would properly control stormwater runoff on-site and incorporate design features that would be appropriately sized for storm events to minimize flooding and ensure adequate capacity. The Reduced Footprint Alternative would also implement **MM 4.9-1**, which requires preparation of an HMBP to ensure the safe handling, storage, and cleanup of hazardous materials in the event of an accidental release. With implementation of these measures, the Reduced Footprint Alternative would not violate water quality standards or waste discharge requirements, nor would it substantially degrade surface or groundwater quality.

Similar to the proposed project, water demand would likely be met through purchasing water production rights and constructing on-site groundwater wells that draw from AVGB. As described in **Section 4.10**,

Hydrology and Water Quality, the amount of water stored in the AVGB is relatively large compared to the proposed project demand, and sufficient water supplies would be available for the project. Because the Reduced Footprint Alternative would disturb less acreage and would have less water demand than the proposed project, it is assumed that sufficient water demand is available under the Reduced Footprint Alternative. Furthermore, the project proponent would be required to implement **MM 4.17-1**, which requires the project proponent to demonstrate that sufficient water supplies have been secured and will be available to serve project construction, operation, and decommissioning.

Overall, the Reduced Footprint Alternative would result in impacts on hydrology and water quality that are less than significant. However, the Reduced Footprint Alternative would result in reduced but similar impacts on hydrology and water quality when compared to the proposed project due to the reduced footprint, which would result in reduced grading activities, the amount of impervious surfaces, and water use.

Land Use and Planning

Under the Reduced Footprint Alternative, the project would develop only the North and South BESS areas, which would reduce the project footprint to approximately 70 acres. Development of the Reduced Footprint Alternative would still require ZCCs, CUPs, ZVs, and vacation of easements. As with the proposed project, the Reduced Footprint Alternative would not physically divide an established community.

As described in **Section 4.11**, *Land Use and Planning*, the proposed project would be consistent with applicable local policies and plans with the implementation of mitigation measures identified throughout this Draft EIR. Due to its reduced development footprint, the Reduced Footprint Alternative would be expected to maintain consistency with applicable local land use plans and policies. Therefore, the Reduced Footprint Alternative would result in less than significant impacts with mitigation and would result in less impacts compared to the proposed project.

Mineral Resources

Under the Reduced Footprint Alternative, the project would not develop the West BESS area which would reduce the project's footprint from approximately 120 acres to approximately 70 acres. There are no identified mineral resources on the project site of regional or local significance; therefore, impacts to mineral resources are expected to be similar and less than significant under both the proposed project and this alternative.

Noise

Under the Reduced Footprint Alternative, the project would not develop the West BESS area and would reduce the project's footprint from approximately 120 acres to approximately 70 acres. Under the Reduced Footprint Alternative, all construction and operational methods, workforce, and timing would be reduced when compared with the proposed project.

As described in **Section 4.13**, *Noise*, the proposed project would generate construction-related noise that does not exceed applicable thresholds. Nevertheless, **MM 4.13-1** through **MM 4.13-3** would be implemented to ensure compliance with applicable noise limitations and further reduce temporary increases in noise levels at off-site receptors. It is expected that the construction noise levels associated with the Reduced Footprint Alternative would be similar to or less than the proposed project and would be subject to the same mitigation measures. In addition, the proposed project would generate ambient operation-related noise levels in excess of standards along the northwest boundary of the project that is zoned for residential

uses. However, because the Reduced Footprint Alternative would eliminate the West BESS area, it is expected that this potentially significant impact would be avoided.

Lastly, similar to the proposed project, the Reduced Footprint Alternative would not generate excessive ground-borne vibration or ground-borne noise levels. Therefore, the Reduced Footprint Alternative would result in less than significant impacts with mitigation regarding noise and vibration.

Overall, the Reduced Footprint Alternative would result in substantially less impacts regarding noise and vibration when compared to the proposed project due to the removal of the West BESS area. However, both the proposed project and Reduced Footprint Alternative would result in less than significant impacts.

Public Services

Under the Reduced Footprint Alternative, the project would not develop the West BESS area, which would reduce the project's footprint from approximately 120 acres to approximately 70 acres. The Reduced Footprint Alternative would result in limited increases in demand for fire protection and law enforcement services. These increases may stem from the potential introduction of new fire hazards and the need for enhanced police presence to ensure public safety during both construction and ongoing operations. To address these potential impacts, the Reduced Footprint Alternative would implement **MM 4.14-1** that requires implementing a Fire Safety Plan. In addition, **MM 4.14-2** and **MM 4.14-3** would require the project proponent to pay a Kern County Cumulative Impact Charge (CIC) to financially support the provision of adequate public services and facilities should the facility benefit from a battery energy storage tax credit.

Similar to the proposed project, it is not expected that a substantial increase in population would occur that would adversely affect local school populations, park facilities, or local public facilities, such as post offices, courthouses, and library services. The Reduced Footprint Alternative would also be required to hire at least 50 percent of their workers from local Kern County Communities, as outlined in **MM 4.14-4**. As a result, no significant impacts on schools, parks, or other public services are anticipated.

Overall, the Reduced Footprint Alternative would result in impacts on public services that are less than significant. Furthermore, given the reduced footprint and fewer employees required for project implementation, this alternative would result in less impacts on public services in comparison to the proposed project.

Transportation

As discussed in **Section 4.15**, *Transportation*, construction activities associated with the proposed project generally would not cause a roadway intersection to operate below the minimum acceptable LOS threshold of LOS D, as established in the KCGP Circulation Element. However, the 170th Street West/Avenue A intersection is forecasted to operate at LOS E during the PM peak hour during the construction phase. Under the Reduced Footprint Alternative, the West BESS area would be removed from the project footprint, resulting in fewer construction-related trips through this intersection. As a result, the potential for LOS degradation at this location would be reduced under this alternative. To further reduce potential impacts, the project proponent would implement **MM 4.15-1**, requiring the development of a Construction Traffic Control Plan. Operation and maintenance-related trips would be reduced in comparison with those of the project due to fewer employees and maintenance requirements. Similar to the proposed project, the Reduced Footprint Alternative would be consistent with applicable circulation programs, plans, ordinances, and policies including transit, roadway, bicycle, and pedestrian facilities.

The proposed project would not result in VMT-related impacts associated with construction, operation, or maintenance activities. The Reduced Footprint Alternative would develop only a portion of the project site and would require fewer construction and operational employees. Therefore, the Reduced Footprint Alternative also would not result in VMT-related impacts.

As it relates to increasing hazards due to a geometric design feature or incompatible use, similar to the proposed project, the Reduced Footprint Alternative would require the use of oversized vehicles during construction, which could create a hazard to the public by limiting motorist views and obstructing roadway space. This alternative would be subject to **MM 4.15-1**, which would reduce impacts from oversized construction vehicles and would also ensure adequate emergency access.

Overall, the Reduced Footprint Alternative would result in less than significant impacts on transportation. Furthermore, given the reduced development footprint and fewer required employees, this alternative would result in less impacts compared to the proposed project.

Tribal Cultural Resources

The Reduced Footprint Alternative would develop only the North and South BESS areas, which would result in ground disturbances on approximately 70 acres of undeveloped land. Therefore, this alternative has the potential to encounter and disturb unknown tribal cultural resources and burials during site clearing and grading activities. Similar to the proposed project, the Reduced Footprint Alternative would implement **MM 4.5-1** through **MM 4.5-5**, which protects cultural resources, requires sensitivity training for construction workers, and requires tribal cultural monitoring during ground-disturbance activities. Therefore, the Reduced Footprint Alternative would have impacts that are less than significant on tribal cultural resources after mitigation and, due to the reduced amount of ground disturbance, the Reduced Footprint Alternative would result in less impacts when compared to the proposed project.

Utilities and Service Systems

Under the Reduced Footprint Alternative, the project would not develop the West BESS area, reducing the project footprint to approximately 70 acres. As with the project, installation of an energy storage system and tie-line would increase demand on utilities and service systems, such as water, electrical power, and telecommunications. However, the reduction in project footprint would result in a proportionately reduced demand on utilities and service systems.

As with the proposed project, project construction and operations under the Reduced Footprint Alternative would require water usage for dust suppression as well as minimal generation of wastewater, usage of electrical power, and telecommunications. In addition, construction of the Reduced Footprint Alternative would not substantially alter stormwater drainage. With regard to operations, this alternative would have a reduced demand for or generation of water, wastewater, and solid waste due to the fewer number of employees required. As the Reduced Footprint Alternative would develop the project site, impervious surfaces would be minimized as much as possible, as with the project. Similar to the proposed project, the Reduced Footprint Alternative would implement a Maintenance, Trash Abatement, and Pest Management Program, as described in **MM 4.1-1**, and would designate an on-site Waste Disposal and Recycling Coordinator, as described in **MM 4.17-1,** to reduce potential impacts. The Reduced Footprint Alternative would implement **MM 4.10-1**, which would include measures to minimize stormwater runoff.

This alternative is expected to result in impacts on utilities and service systems that are less than significant, and impacts would be less relative to the proposed project.

Wildfires

Under the Reduced Footprint Alternative, the project would not develop the West BESS area, reducing the project's footprint from approximately 120 acres to approximately 70 acres.

As with the proposed project, this alternative, including the North and South BESS areas and tie-line, is not located in a very high fire hazard severity zone. Development of the alternative would not be anticipated to physically impede the existing emergency response plans, emergency vehicle access, or personnel access to the site. The Reduced Footprint would install BESS and tie-lines, along with associated infrastructure, which could expose project occupants to pollutants or exacerbate fire risk. Similar to the proposed project, the Reduced Footprint Alternative would be designed and constructed to comply with all applicable codes in effect in the County, including NFPA Standards, National Electrical Code, and California Fire Code. In addition, this alternative would be subject to **MM 4.14-1**, requiring the implementation of a Fire Safety Plan, which would further reduce the fire risks on site.

With regard to wildfire hazards during operations, the alternative would involve the installation of various infrastructure components that have the potential to introduce ignition sources. However, as with the proposed project and previously stated, this alternative would be required to comply with NFPA 855. NFPA 855 requires project-specific safety planning documents to be approved by KCFD, including bench-scale fire and explosion testing, a Hazard Mitigation Analysis, and an Emergency Response Plan. These materials would be submitted to KCFD once the specific equipment is selected and before issuance of building permits. In addition, NFPA 855 requires initial and annual refresher training for project personnel, and the project proponent would coordinate with KCFD to provide site-specific training for emergency responders.

As described in **Section 4.18**, *Wildfire*, the project site is not located in or near a High or Very High FHSZ or within a SRA. Additionally, the project site consists of flat terrain that would not exacerbate the spread of wildfire. However, construction activities associated with this alternative would temporarily introduce ignition sources, such as spark or heat-generating tools, within non-native grasslands that could serve as vegetative fuels. Therefore, as with the proposed project, the Reduced Footprint Alternative would be subject to **MM 4.1-4,** which requires the preparation of a Landscape Revegetation and Restoration Plan. Additionally, the alternative would be subject to the Kern County Fire Code and would require consultation with the Kern County Fire Department to ensure all fire safety requirements are met.

Lastly, the project site does not exhibit site characteristics that pose significant post-wildfire hazards, such as landslides or downslope flooding. Specifically, the project site is relatively flat, is currently undisturbed land, and does not consist of urban development that could be exposed to potential post-wildfire conditions. Furthermore, as previously stated, under the Reduced Footprint Alternative the project proponent would be required to implement a SWPPP per **MM 4.10-1**, thereby further reducing the potential for on- or off-site flooding, erosion, and sedimentation.

Overall, the Reduced Footprint Alternative would result in less than significant, project-specific impacts with mitigation regarding wildfire; however, the Reduced Footprint Alternative would make a cumulatively considerable contribution to significant cumulative impacts regarding wildfire. Although impacts resulting from the Reduced Footprint Alternative would be similar to those resulting from the proposed project, given the reduced development footprint, the Reduced Footprint Alternative would result in proportionally less impacts as compared to the proposed project.

Comparison of Impacts

Compared to the proposed project, the Reduced Footprint Alternative would result in less impacts for most environmental resource areas, including aesthetics, air quality, biological resources, cultural resources,

geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services, transportation, tribal cultural resources, utilities and service systems, and wildfire. In addition, this alternative would substantially reduce significant and unavoidable impacts on air quality (construction and cumulative). This alternative would also have similar impacts on agricultural and forestry resources and mineral resources.

However, given that this alternative develops approximately 70 acres of undisturbed land, the Reduced Footprint Alternative would not eliminate or substantially lessen significant and unavoidable impacts associated with aesthetics (cumulative only), biological resources (project WJT only and cumulative), or wildfire (cumulative only). Additionally, given the reduced renewable energy storage capacity, the Reduced Footprint Alternative would have greater impacts regarding energy and GHG emissions.

Relationship to Project Objectives

The Reduced Footprint Alternative would meet most of the project objectives listed above in **Section 6.2**, *Project Objectives*, although to a lesser degree. This alternative would meet the objective of using proven and established energy storage technology that is efficient with low maintenance requirements, siting and designing the project in an environmentally responsible manner, locating the storage capacity close to an abundant source of renewable energy to optimize transmission efficiency, and utilizing land that is commercially viable to secure. However, the Reduced Footprint Alternative would reduce total energy storage capacity due to the elimination of the West BESS, which would limit the project's contributions to State RPS, Southern California Edison's goals for storage capacity, and GHG reductions. Due to the reduction in size, this alternative may not achieve the project objective of storing energy at a competitive cost, minimizing the need for new infrastructure to connect the storage capacity to the grid, and supporting Kern County's economy to the same extent as the proposed project.

6.8 Environmentally Superior Alternative

As presented in the comparative analysis above, and as shown in **Table 6-3**, *Comparison of Alternatives*, there are a number of factors in selecting the environmentally superior alternative. An EIR must identify the environmentally superior alternative to the project. Alternative 1, the No Project Alternative, would be environmentally superior to the project on the basis of its minimization or avoidance of physical environmental impacts. However, CEQA Guidelines Section 15126.6(e)(2) states:

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

Because the No Project Alternative cannot be identified as the Environmentally Superior Alternative under CEQA, the Reduced Footprint Alternative is considered the Environmentally Superior Alternative. Compared to the proposed project, the Reduced Footprint Alternative would result in reduced impacts related to aesthetics, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services, transportation, tribal cultural resources, utilities and service systems, and wildfire. Specifically, this alternative would avoid the proposed project's significant and unavoidable impacts related to air quality.

However, the Reduced Footprint Alternative has the potential to result in comparatively greater GHG- and energy-related impacts than the proposed project because of the reduction in renewable energy storage capacity and integration, and associated potential GHG emission reductions. While GHG and energy impacts would remain less than significant, this alternative would be less effective than the proposed project in advancing the State GHG reduction goals. In addition, the Reduced Footprint Alternative would not substantially lessen or avoid the proposed project's potentially significant and unavoidable impacts related to aesthetics (cumulative only), biological resources (project WJT only and cumulative), and wildfire (cumulative only).

The Reduced Footprint Alternative would partially meet the project objectives identified in **Section 6.2**, *Project Objectives*. Specifically, it would continue to utilize proven and established energy storage technology, be sited and designed in an environmentally responsible manner, locate energy storage capacity near an abundant source of renewable energy to optimize transmission efficiency, and utilize land that is commercially viable to secure. However, because the alternative would reduce the project's overall storage capacity, it would not support State renewable energy and GHG reduction objectives to the same degree as the proposed project. Additionally, it would not minimize the need for new infrastructure connecting energy storage capacity to the electrical grid to the same extent as the proposed project.

Nevertheless, because the Reduced Footprint Alternative would reduce environmental impacts to a greater extent than the General Plan and Zoning Build-Out Alternative while still meeting many of the project's objectives, it is identified as the Environmentally Superior Alternative.

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Chapter 7
Response to Comments

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Chapter 7
Response to Comments

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Chapter 8
Organizations and Persons Consulted

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Chapter 8
Organizations and Persons Consulted

8.1 Federal

China Lake Naval Weapons Center

Edwards Air Force Base, Mission Sustainability Liaison

U.S. Air Force

U.S. Army

U.S. Navy

U.S. Marine Corps

U.S. Bureau of Land Management

U.S. Department of Agriculture/NRCS

U.S. Environmental Protection Agency

U.S. Fish & Wildlife Service

8.2 State of California

State Water Resources Board

State Air Resources Board

State Department of Conservation

California Energy Commission

California Department of Fish & Wildlife

California Highway Patrol

California Integrated Waste Management

California Public Utilities Commission, Energy Division

California Regional Water Quality Control Board, Lahontan Region

California Department of Toxic Substances Control

Caltrans District 6

Caltrans District 9

Native American Heritage Commission

8.3 Regional and Local

Antelope Valley Resource Cons Dist.

Antelope Valley-East Kern Water Agency

Bakersfield City Planning Department

Bakersfield City Public Works Department

California City Planning Department

California State University

California State University Bakersfield - Library

City of Arvin

City of Maricopa

Inyo County Planning Department

Kern Council of Governments

Kern County Administrative Officer

Kern County District 2

Kern County Env Health Services Department

Kern County Fire Department

Kern County Library

Kern County Library – Beale

Kern County Library – Beale Local History Room

Kern County Museum

Kern County Public Works Department (Building & Development - Survey)

Kern County Public Works Department (Operations & Maintenance - Regulatory Monitoring & Reporting)

Kern County Sheriff's Department

Kern County Superintendent of Schools

Kern County Water Agency

Kings County Planning Agency

Los Angeles Co Reg Planning Department

City of McFarland
City of Ridgecrest
City of Shafter
City of Taft
City of Tehachapi
City of Wasco
Delano City Planning Department
East Kern Air Pollution Control District
Fairmont Town Council
Kern County Parks & Recreation
Kern County Public Works Department (Building & Development - Code Compliance)
Kern County Public Works Department (Building & Development - Development Review)
Kern County Public Works Department (Building & Development - Floodplain)
Mojave Town Council
San Bernardino County Planning Department
San Luis Obispo County Planning Department
Santa Barbara County Resource Mgt Department
Southern San Joaquin Valley Information Center
Southern Kern Unified School District

8.4 Other

Adams, Broadwell, Joseph & Cardozo
Center for Biological Diversity
Center on Race, Poverty & the Environment
Center on Race, Poverty & the Environment (CA Rural Legal Assistance Foundation)
Chumash Council of Bakersfield
Congentrix Sunshine, LLC
David Laughing Horse Robinson
David Walsh
Defenders of Wildlife
EDP Renewables North America, LLC
Eight Bar Ranch
Euismod Energy Storage Project AB 52 Tribal Contacts
Fotowatio Renewable Ventures
Iberdrola Renewables
Kern Audubon Society
Kern Valley Indian Council
Kern Valley Indian Council Historic Preservation Office
Kitanemuk & Yowlumne Tejon Indians
Leadership Counsel for Justice & Accountability
LIUNA
Lozeau Drury LLP
Mitchell M. Tsai Law Firm
Morongo Band of Mission Indians
Native American Heritage Council of Kern County
Pacific Crest Trail Association
Pacific Gas and Electric Company
Recurrent Energy
Renewable Resources Group Holding Company
Santa Rosa Rancheria
Sierra Club
Sierra Club (Beyond Coal Campaign)
Sierra Club/Kern Kaweah Chapter
Southern California Edison
Structure Cast
Tejon Indian Tribe
Tejon Indian Tribe (DUP)
Terra-Gen Power, LLC
Torres Martinez Desert Cahuilla Indians
Tubatulabals of Kern County
Tule River Indian Tribe
Twenty-Nine Palms Band of Mission Indians
Wind Stream, LLC
Yuhaaviatam of San Manuel Nation

Chapter 9
List of Preparers

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Chapter 9
List of Preparers

9.1 Lead Agency

Kern County Planning and Natural Resources Department

Craig Murphy – Planning Director

Nicole Menchaca – Division Chief, Advanced Planning Division

Keith Alvidrez – Supervising Planner, Advanced Planning Division

Macpherson Gillies – Planner I, Advanced Planning Division

9.2 Technical Assistance

WSP USA, Inc.

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Alana Flaherty – Lead Consultant, Environmental Planning, Deputy Project Manager

Michael Smith, Ph.D. – Senior Vice President and National Practice Leader

Maximus McQuarrie – Early Career Environmental Planner

Krystle Rayos – Associate Consultant, Environmental Planning

Brittany Cabeje – Senior Consultant, Environmental Planning

Nicole Barber – Associate Consultant, Environmental Planning

Connor Duignan – Associate Consultant, Environmental Planning

James Sullivan – Consultant, Environmental Planning

Krissie Essilfie – Early Professional, Transportation Planning

Randy Burton – Senior Design Visualization Specialist

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Elizabeth Schwing – Lead Consultant, Sustainable Infrastructure

Scott Crawford – Natural and Cultural Resources Senior Technical Director

Michael Amorelli – Senior Professional, Archaeology

John Schober – Lead Consultant, Geotechnical Engineering

Kevin Keller – Assistant Vice President, Environmental Planning

Brent Miyazaki – Technical Director, Project Management

Matt Sauter – Lead Consultant, Environmental Planning

Betsy Mitton – Senior Vice President, Environmental Science

Jason Daniels – Vice President, Fire and Life Safety Engineering

Robert Starr – Assistant Vice President, Environmental Engineering

Joe Nortnik – Senior Technical Editor

Megan Truillo – Technical Editor

Amber Santilli – Specialist, Administrative Support

Chapter 10
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Chapter 10
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Chapter 11
Acronyms and Abbreviations

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Chapter 11
Acronyms and Abbreviations

Acronyms and Abbreviations

2022 Scoping Plan	2022 Scoping Plan for Achieving Carbon Neutrality
A	Exclusive Agriculture
A-1	Limited Agriculture
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ACSR	aluminum conductor steel reinforced
The Act	The California Native American Historical, Cultural, and Sacred Sites Act
ADT	average daily traffic
AEGL	acute exposure guideline level
AF	acre-feet
AFB	Air Force Base
AFY	acre-feet per year
AG	California Office of the Attorney General
AGL	above ground level
ALUCP	Kern County Airport Land Use Compatibility Plan
AMBA	American badger
amsl	above mean sea level
ANSI	American National Standards Institute
APLIC	Avian Power Line Interaction Committee
APN	Accessor Parcel Number
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
AR	Assessment Report
AR4	Fourth Assessment Report
AR5	Fifth Assessment Report
AR6	Sixth Assessment Report

ATCM	Airborne Toxic Control Measures
AVEK	Antelope Valley-East Kern Water Agency
AVGB	Antelope Valley Groundwater Basin
AWSC	All Way Stop Controlled
Basin Plan	Lahontan Regional Water Quality Control Board Plan
BAU	Business As Usual
BCC	Bird of Conservation Concern
BESS	battery energy storage system(s)
bgs	below ground surface
BIOS	Biogeographic and Information Observation System
BLM	Bureau of Land Management
BMCM	Bulk Material Control Measure
BMP	Best Management Practice
BP	before present
BPS	Best Performance Standard
BSA	Biological Study Area
BUOW	burrowing owl
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CAISO	California Independent System Operator Corporation
CalARP	California Accidental Release Prevention Program
CalEEMod	California Emissions Estimator Model
Cal/EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CalGEM	California Geologic Energy Management
CalGreen	Green Building Standards Code
Cal NAGPRA	California Native American Graves Protection and Repatriation Act
Cal OES	California Office of Emergency Services
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation

CARB	California Air Resources Board
CBC	California Building Code
CAA	Clean Air Act
CCAA	California Clean Air Act
CCR	California Code of Regulations
CCVT	coupling capacitor voltage transformers
CDC	Centers for Disease Control and Prevention
CDFW	California Department of Fish and Wildlife
CDNPA	California Desert Native Plant Act
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
cf	cubic foot
CFC	California Fire Code
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH_4	methane
CHL	California Historical Landmark
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CI	Coccidioides immitis
CIC	Cumulative Impact Charge
CISN	California Integrated Seismic Network
CIWMB	California Integrated Waste Management Board
CMA	Congestion Management Agency
CMP	congestion management program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society

CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
The County	Kern County
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CUP	conditional use permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CWC	California Water Code
dB	decibel
dBA	A-weighted decibel
DI	Drilling Island
DKF	desert kit fox
DOC	California Department of Conservation
DOSH	California Department of Occupational Safety and Health
DoW	Department of War
DPM	diesel particulate matter
DPR	California Department of Parks and Recreation
DPR	California Department of Pesticide Regulation
DRECP	Desert Renewable Energy Conservation Plan
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
E	Estate
EIA	U.S. Energy Information Administration
EIR	Environmental Impact Report
ECA	Essential Connectivity Area
EKAPCD	Eastern Kern Air Pollution Control District
Energy Code	Building Energy Efficiency Standards
EMF	electromagnetic field

EMS	Kern County Emergency Medical Services Division
ESA	Environmental Site Assessment
ESS	energy storage system(s)
FAA	Federal Aviation Administration
FBFM	Flood Boundary Floodway Maps
FC	federally critically endangered
FE	federally listed as endangered
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FESA	federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FP	Floodplain
FP	fully protected
FPPA	Farmland Protection Policy Act
FPS	Floodplain Secondary
FRA	Federal Responsibility Area
FRAP	Fire and Resource Assessment Program
FT	federally listed as threatened
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
FVGB	Fremont Valley Groundwater Basin
GHG	Greenhouse gas
GIS	Geographic information system
GO	General Order
GPA	General Plan Amendment
GSA	groundwater sustainability agency
GSP	Groundwater Sustainability Plan
GWh	gigawatt-hour

GWMP	Groundwater Management Plan
GWP	Global Warming Potential
H_2	hydrogen
H_2S	hydrogen sulfide
HAP	hazardous air pollutant
HASP	Health and Safety Plan
Hazardous Waste Plan	Kern County and Incorporated Cities Hazardous Waste Management Plan
HCl	hydrogen chloride
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
Heritage	Heritage Environmental Consultants, LLC
HF	hydrogen fluoride
HFCs	hydrofluorocarbons
HFTD	High Fire-Threat District
HHZ	High-Hazard Zones
HMA	Hazard Mitigation Analysis
HMBP	Hazardous Materials Business Plan
HMR	hazardous materials regulations
HMTA	Hazardous Materials Transportation Act
HRA	Health Risk Assessment
HSC	Health and Safety Code
HSWA	Hazardous and Solid Waste Act
HU	hydrologic unit
HVAC	heating, ventilation, and air conditioning
Hz	hertz
I-5	Interstate 5
IBA	Important Bird Area
IDLH	Immediately Dangerous to Life or Health
IFC	International Fire Code
IGY	International Geophysical Year

IPaC	Information for Planning and Consultation
IPCC	Intergovernmental Panel on Climate Change
ips	inches per second
IR	Instrument Route
IRWM	Integrated Regional Water Management
ITP	incidental take permit
ITS	Intelligent Transportation Systems
KCFD	Kern County Fire Department
KCGP	Kern County General Plan
KCSO	Kern County Sheriff's Office
Kern COG	Kern Council of Governments
KOP	Key Observation Point
kV	kilovolt
kWh	kilowatt-hour
LACFD	Los Angeles County Fire Department
LACM	Los Angeles County Natural History Museum
LCFS	Low Carbon Fuel Standard
LCI	Land Use and Climate Innovation
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
L_d	daytime average noise
L_n	nighttime average noise
L_{dn} or DNL	Day-Night Average Noise
L_{eq}	equivalent sound level
L_{max}	Maximum Noise Level
L_{min}	Minimum Noise Level
LEV	low-emissions vehicle
LOS	Level of service
LRA	Local Responsibility Area

MBTA	Migratory Bird Treaty Act
MDAB	Mojave Desert Air Basin
MEI	Maximum Exposed Individual
MEIR	Maximally exposed individual resident
MEIW	Maximally exposed individual worker
MM	Mitigation Measure
MMT	Million metric tons
MOA	Military Operations Area
mpg	miles per gallon
MPO	Metropolitan planning organizations
MPUD	Mojave Public Utility District
MRZ	Mineral Resource Zone
MSL	mean sea level
MT	Metric tons
MT CO_2e	Metric tons of CO_2 equivalent
MTR	Mid-Term Reliability
MTR	Military Training Route
MW	megawatt
MWh	megawatt-hour
MY	Model year
NAAQS	National Ambient Air Quality Standards
NAHC	California Native American Heritage Commission
NCCP	natural community conservation plan
NCP	National Contingency Plan
NEHRP	National Earthquake Hazards Reduction Program
NERC	North American Electric Reliability Corporation
NESC	National Electric Safety Code
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act

NHTSA	National Highway Traffic Safety Administration
NIOSH	National Institute for Occupational Safety and Health
NLB	Natural Landscape Block
NM	nautical miles
NPL	National Priorities List
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSA	Noise Sensitive Area
N_2O	Nitrous oxide
NO_2	nitrogen dioxide
NQC	net qualifying capacity
NR	Natural Resources
NRCS	Natural Resources Conservation Service
NWCG	National Wildfire Coordinating Group
NWI	National Wetlands Inventory
OE/AAA	Obstruction Evaluation/Airport Airspace Analysis
OEHHA	California Office of Environmental Health Hazard Assessment
OHV	Off-Highway Vehicle
OHWM	Ordinary High Water Mark
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
µPa	micro pascal
PCB	polychlorinated biphenyls
PCT	Pacific Crest National Scenic Trail
PE	Petroleum Extraction
PFCs	perfluorocarbons
PG&E	Pacific Gas and Electric
PHEV	plug-in hybrid electric vehicle
PHI	point of historical interest

PI	plasticity index
PL	Platted Lands
PM	particulate matter
POCO	Point of Change of Ownership
PPM	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
project	Euismod Energy Storage Project
psi	pounds per square inch
PVC	polyvinyl chloride
RACM	Reasonably Available Control Measure
RCRA	Resource Conservation and Recovery Act
RCSD	Rosamond Community Services District
REC	recognized environmental concern
Region	South Lahontan Hydrologic Region
Registry	California Climate Action Registry
RHNA	Regional Housing Needs Allocation
RMP	Risk Management Program
RMS	root mean square
ROG	reactive organic gas
RPAC	Regional Planning Advisory Committee
RPS	Renewables Portfolio Standard
RS	Residential Suburban
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAFE	Safer Affordable Fuel-Efficient
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SC	state candidate for listing
SCADA	Supervisory Control and Data Acquisition
SCAQMD	South Coast Air Quality Management District

SCE	Southern California Edison
SCS	Sustainable Communities Strategy
SDC	seismic design category
SDG&E	San Diego Gas and Electric
SE	state-listed as endangered
SF_6	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLAMS	State and Local Air Monitoring Stations
SLCP	Short-lived climate pollutants
SLF	Sacred Lands File
SMARA	Surface Mining and Reclamation Act of 1975
SO_2	sulfur dioxide
SoCalGas	Southern California Gas
SR	State Route
SRA	State Responsibility Area
SSC	species of special concern
SSJVIC	San Joaquin Valley Information Center
SSSC	Side Street Stop Controlled
ST	state-listed as threatened
STIP	State Transportation Improvement Program
SVP	Society of Vertebrate Paleontology
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TAZ	traffic analysis zones
TIS	Traffic Impact Study
TMDL	total maximum daily load
tpy	ton per year

TRB	Transportation Research Board
TRTP	Tehachapi Renewable Transmission Project
TRU	Transportation Refrigeration Units
TWSC	Two-Way Stop Controlled
UBC	Uniform Building Code
UDP	Unanticipated Discovery Plan
UFC	Uniform Fire Code
UIC	Underground Injection Control
UL	Underwriters Laboratories
Unified Program	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
U.S.C.	U.S. Code
USDOT	U.S. Department of Transportation
UST	Underground Storage Tank
UWMP	Urban Water Management Plan
VdB	vibration decibel
VMT	vehicle miles traveled
VOC	Volatile Organic Compounds
VR	Visual Route
W	watt
Watermaster	Antelope Valley Watermaster
WE	Wind Energy
Wh	watt-hour
Williamson Act	California Land Conservation Act of 1965
WJT	western Joshua Tree
WJTCA	Western Joshua Tree Conservation Act
WL	watch list

WMP	Wildfire Mitigation Plan
WOS	waters of the state
WOTUS	Waters of the United States
WRP	Water Reclamation Plant
WSA	Water Supply Assessment
YSMN	Yuhaaviatam of San Manuel Nation
ZCC	Zone Classification Change
ZEV	zero-emission vehicles
ZV	Zone Variance

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