

Draft Environmental Impact Report

SCH# 2019100659

Volume 1
Chapters 1 through 11

LOST HILLS COMPOSTING AND BIOENERGY
by Lost Hills Environmental, LLC (*PP8111*)

Modification No. 1, CUP #1, Map 28; CUP #13, Map 28
Modification No. 2, CUP #9, Map 28



Kern County
Planning and Natural Resources Department
Bakersfield, California

May 2021

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Lorelei H. Oviatt, AICP, Director
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323
Phone: (661) 862-8600
Fax: (661) 862-8601 TTY Relay 1-800-735-2929
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Web Address: <http://kernplanning.com/>



**PLANNING AND NATURAL
RESOURCES DEPARTMENT**

Planning
Community Development
Administrative Operations

May 18, 2021

File: Mod. No. 1, CUP #1,
Map 28; CUP #13, Map 28;
Mod No. 2, CUP #9, Map 28

ADDRESSEE LIST (See Distribution List)

Re: Draft Environmental Impact Report for the Lost Hills Composting and Bioenergy Project by Lost Hills Environmental, LLC (SCH #2019100659)

Dear Interested Party:

Kern County has prepared a Draft Environmental Impact Report (Draft EIR) for the above-noted land use applications to allow for the construction and operation of an extended Aerated Static Pile (eASP) composting facility, construction and operation of a 3-MW bioenergy power plant, and expansion of allowable waste streams and operating hours for an existing Class III Non-Hazardous Industrial Waste Landfill on approximately 337 acres of land in unincorporated Kern County.

The project site is located approximately 3.5 miles west of the unincorporated community of Lost Hills and is comprised of two adjacent sites, Sites A and B, which are separated by Holloway Road. The sites are approximately 1.5 miles and 2.25 miles, respectively, north of State Route - 46. Surrounding land uses include the H.M. Holloway Gypsum Mine to the north, a closed Kern County landfill and active transfer station and other undeveloped land to the south, undeveloped Federal land and the 3,000-acre Lost Hills Oil Field to the east, and undeveloped land to the west. Other adjacent or nearby land uses include orchard and row-crop farming, rural access roads, a biosolids/green waste composting facility, and two State highways (SR-46 and SR-33). The site is located in Sections 24 and 25, Township 26 South, Range 20 East (MDB&M), County of Kern, State of California.

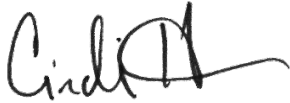
The project proponent is requesting: a) Modification No. 1, CUP #1, Map 28 for amendment to the boundaries of CUP #1, Map 28 of the existing mining facility to remove approximately 6 acres, which will become the location for the proposed bioenergy facility and ancillary structures; b) Issuance of CUP #13, Map 28 that would facilitate the construction and operation of a 3-MW (net) bioenergy facility; c) Modification No. 2, CUP #9, Map 28 for amendment to CUP #9, Map 28 of the existing Class III Non-Hazardous Industrial Waste Landfill to include: 1) a revision in the allowable waste streams permitted at the landfill to allow the acceptance and disposal of various materials; 2) a revision to allow for an increase in permitted hours of operation; and 3) construction and operation of an extended Aerated Static Pile (eASP) composting facility sited on approximately 136.2 acres within the current permitted landfill facility boundary in an A zone district. Material accepted for composting at the facility would include biosolids, green waste, food waste, manure, and wood waste, for a total 640,000 tons per year. The project's permanent facilities would include a bioenergy renewable power plant, an onsite substation, raw water storage tank, high-voltage switchyard, perimeter security fencing, and generational tie lines.

The Kern County Planning and Natural Resources Department, as Lead Agency, has determined that preparation of an Environmental Impact Report would be appropriate for the referenced project. Enclosed is a copy of the Draft EIR.

If we have not received a reply from you by **July 1, 2021, at 5:00 P.M.**, we will assume that you have no comments regarding this Draft EIR.

Should you have any questions regarding this project, please do not hesitate to contact me at (661) 862-8629 or via email at hooverc@kerncounty.com

Sincerely,

A handwritten signature in black ink that reads "Cindi Hoover". The signature is written in a cursive style with a long, sweeping tail.

Cindi Hoover, Supervising Planner
Advanced Planning Division

CUP #1; CUP #9, CUP #13, Map #28
WO #PP18111 (Lost Hills Composting)
I:\Planning\WORKGRPS\WP\LABELS\
28cup9mod2cup1cup13_EIR_Cindi.docx
.doc
Sc 04/28/21

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

Bakersfield City Planning Dept
1715 Chester Avenue
Bakersfield, CA 93301

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

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

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

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

City of McFarland
401 West Kern Avenue
McFarland, CA 93250

City of Ridgecrest
100 West California Avenue
Ridgecrest, CA 93555

City of Shafter
336 Pacific Avenue
Shafter, CA 93263

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

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

City of Wasco
764 E Street
Wasco, CA 93280

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

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

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

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

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

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

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

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

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

U. S. Fish & Wildlife Service
Division of Ecological Services
2800 Cottage Way #W-2605
Sacramento, CA 95825-1846

North West Kern Resource Cons Dist
5080 California Avenue, Suite 150
Bakersfield, CA 93309

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

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

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

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

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

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

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

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

State Dept of Conservation
Office of Mine Reclamation
801 "K" Street MS 09-06
Sacramento, CA 95814-3529

State Dept of Conservation
Div Recycling Cert. Sec.
801 "K" Street, MS 19-01
Sacramento, CA 95814

State Mining and Geology Board
801 K Street, MS 20-15
Sacramento, CA 95814

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

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

State Dept of Food & Agriculture
1220 "N" Street
Sacramento, CA 95814

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

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

State Water Resources Control Board
Division of Drinking Water
Attn: Jesse Dhaliwal, Sr. Sanitary Eng
4925 Commerce Drive, Suite 120
Bakersfield, CA 93309

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

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

CalRecycle
Dept of Resources, Recycling, and
Recovery
Attn: Kristine Karl
1001 "I" Street
Sacramento, CA 95812

Kern County
Agriculture Department

Kern County Administrative Officer

Kern County Public Works Department/
Building & Development/Floodplain

Kern County Public Works Department/
Building & Development/Survey

Kern County
Env Health Services Department

Kern County Fire Dept
Michael Nicholas, Assistant Fire Marshal

Kern County Library/Beale
Local History Room

Kern County Library/Beale
Andie Sullivan

Kern County Library
Wasco Branch
1102 Seventh Street
Wasco. CA 93280

Kern County Library
Lost Hills

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

Lost Hills Union School Dist
P.O. Box 158
Lost Hills, CA 93249

Wasco Union High School Dist
P.O. Box 250
Wasco, CA 93280

Kern High School Dist
5801 Sundale Avenue
Bakersfield, CA 93309

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

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

Lost Hills Utility Dist
P.O. Box 249
Lost Hills, CA 93249

Lost Hills Water Dist
3008 Sillect Avenue, Ste 205
Bakersfield, CA 93308-6340

Berrenda Mesa Water Dist
14823 Highway 33
Lost Hills, CA 93249-9734

Buena Vista Water Storage Dist
P.O. Box 756
Buttonwillow, CA 93206

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

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

Kern Mosquito Abatement Dist
4705 Allen Road
Bakersfield, CA 93314

West Side Mosquito
Abatement Dist.
P.O. Box 205
Taft, CA 93268

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

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

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

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

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

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

Pacific Gas & Electric Co
Matt Coleman, Land Mgt
1918 "H" Street
Bakersfield, CA 93301-4319

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

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

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

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

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

Chumash Council of Bakersfield
2421 "O" Street
Bakersfield, CA 93301-2441

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

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

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

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

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

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

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

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

San Fernando Band of Mission Indians
Attn: John Valenzuela, Chairperson
P.O. Box 221838
Newhall, CA 91322

LIUNA
Attn: Danny Zaragoza
2201 "H" Street
Bakersfield, CA 93301

Native American Heritage Commission
Cultural and Environmental Department
Attn: Andrew Green
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691

Southern California Edison
P.O. Box 410
Long Beach, CA 90801

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

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

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

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

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

Terra-Gen
Randy Hoyle, Sr. Vice Pres
11512 El Camino Real, Suite 370
San Diego, CA 92130

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

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

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

EDP Renewables Company
53 SW Yamhill Street
Portland, OR 97204

Congentrix Sunshine, LLC
Rick Neff
9405 Arrowpoint Blvd
Charlotte, NC 28273

Darren Kelly, Sr. Business Mgr
Terra-Gen Power, LLC
1095 Avenue of the Americas, 25th Floor,
Ste A
New York, NY 10036-6797

Bill Barnes, Dir of Asset Mgt
AES Midwest Wind Gen
P.O. Box 2190
Palm Springs, CA 92263-2190

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

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

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

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

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

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

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

Robert Burgett
9261 - 60th Street, West
Mojave, CA 93501

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

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

Department of Toxic Substances Control
Attn: Gavin McCreary
8800 Cal Center Drive
Sacramento, CA 95826-3200

San Joaquin Valley
Air Pollution Control District
Attn: Eric McLaughlin
1990 East Gettysburg Avenue
Fresno, CA 93726

David Walsh
22941 Banducci Road
Tehachapi, CA 93561

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**NOTICE OF AVAILABILITY FOR PUBLIC REVIEW AND HEARING ON
THE DRAFT ENVIRONMENTAL IMPACT REPORT
FOR THE PROPOSED LOST HILLS COMPOSTING AND BIOENERGY PROJECT**

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

PROJECT TITLE: Lost Hills Composting and Bioenergy Project by Lost Hills Environmental, LLC (PP18111); Modification No. 1, Conditional Use Permit No. 1, Map No. 28; Conditional Use Permit No. 13, Map No. 28; Modification No. 2, Conditional Use Permit No. 9, Map No. 28 (SCH #2019100659)

PROJECT LOCATION: The project site is located approximately 3.5 miles west of the unincorporated community of Lost Hills and is comprised of two adjacent sites, Sites A and B, which are separated by Holloway Road. The sites are approximately 1.5 miles and 2.25 miles, respectively, north of State Route - 46 in Sections: 24 and 25, T26S/R20E (MDB&M) in the north-western portion of unincorporated Kern County, California.

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

PUBLIC HEARING AND COMMENT: Kern County is soliciting comments on the adequacy and completeness of the analysis and proposed mitigation measures described in the Draft EIR. You may comment by providing testimony at the public hearing on:

DATE: August 26, 2021
TIME: 7:00 P.M. or soon thereafter
LOCATION: Chambers of the Board of Supervisors
Kern County Administrative Center, First Floor
1115 Truxtun Avenue, Bakersfield, CA 93301

And/or submitting written comments to the project planner identified below prior to the close of the public comment period on July 1, 2021, at 5:00 p.m.

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

HOW TO COMMENT: You may provide testimony at the public hearing on the date and time specified above or provide written comments prior to the close of public comment period on July 1, 2021, at 5:00 p.m. to:

**Kern County Planning and Natural Resources Department
ATTN: Cindi Hoover, Supervising Planner
2700 "M" Street, Suite 100, Bakersfield, CA 93301
Phone: (661) 862-8629
E-mail: hooverc@kerncounty.com**

Please limit comments to environmental issues such as Traffic, Biology, Noise, etc.

PROJECT DESCRIPTION: The proposed project would involve construction and operation of an extended Aerated Static Pile (eASP) composting facility, construction and operation of a 3-megawatts (MW) bioenergy power plant, and expansion of allowable waste streams and operating hours for an existing Class III Non-Hazardous Industrial Waste Landfill on approximately 337 acres of land in unincorporated Kern County. The proposal includes:

(1) Modification No. 1, CUP No. 1, Map No. 28; (a) Amendment to the boundaries of CUP No. 1, Map No. 28 of an existing mining facility to remove approximately 6 acres, which will become the location for the proposed bioenergy facility;

(2) Issuance of CUP No. 13, Map No. 28; (a) Facilitate the construction and operation of a 3-MW (net) bioenergy facility and accessory structures, on approximately 6 acres in an A (Exclusive Agriculture) District. The project's permanent facilities would include a bioenergy renewable power plant, an on-site Substation, raw water storage tank, high-voltage switchyard, perimeter security fencing, and generational tie lines;

(3) Modification No. 2, CUP No. 9, Map No. 28; (a) Modification to CUP No. 9, Map No. 28 of the existing Class III Non-Hazardous Industrial Waste Landfill to include: (1) a revision in the allowable waste streams permitted at the landfill to allow the acceptance and disposal of various materials; (2) a revision to allow for an increase in permitted hours of operation; and (3) construction and operation of an eASP composting facility sited on approximately 136.2 acres within the current permitted landfill facility boundary in an A District. Material accepted for composting at the facility would include biosolids, green waste, food waste, manure, and wood waste, for a total 640,000 tons per year.

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

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

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

THE BAKERSFIELD CALIFORNIAN

CH:sc (04/29/21)

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

CUP #1; CUP #9, CUP #13, Map #28
WO #PP18111 (Lost Hills Waste)
I:\Planning\WORKGRPS\WP\LABELS\28
cup9mod2cup1cup13_NOA_Cindi.docx
Sc 04/28/21

058 180 05 00 9
BELDING DIANE HOWARD 2005
TRUST
3352 WORTH CT
WALNUT CREEK CA 94598-4051

057 240 51 00 2
BLACKWELL LAND LLC
1340 7TH ST
WASCO CA 93280-1734

057 240 51 00 2
BLACKWELL LAND LLC
2813 HANGAR WY
BAKERSFIELD CA 93308

057 180 36 (MR)
CHEVRON USA INC
P O BOX 1392
BAKERSFIELD CA 93302-1392

058 180 28 00 6
COUNTY OF KERN
**GENERAL SERVICE/PROPERTY
MGT**

057 240 29 00 9 **SITE**
LOST HILLS ENVIRONMENTAL LLC
PO BOX 2284
BAKERSFIELD CA 93303-2284

057 220 16 00 5
LOST HILLS MINING LLC
PO BOX 2284
BAKERSFIELD CA 93303-2284

057 220 20 00 6
SENECA RESOURCES CORPORATION
4520 CALIFORNIA AV # 310
BAKERSFIELD CA 93309-1190

058 180 16 00 1
U S A
450 GOLDEN GATE AVE
SAN FRANCISCO, CA 94102

057 220 70 00 1 (MR)
AERA ENERGY LLC
P O BOX 11164
BAKERSFIELD CA 93389-1164

057 220 60 (MR)
SENECA RESOURCES CORPORATION
4520 CALIFORNIA AV # 310
BAKERSFIELD CA 93309-1190

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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 # 2019100659

Project Title: Lost Hills Environmental – Composting and Waste to Energy Project by Lost Hills Environmental, LLC

Lead Agency: Kern County Planning Department Contact Person: Cindi Hoover

Mailing Address: 2700 "M" Street Suite 100 Phone: (661) 862-8629

City: Bakersfield Zip: 93301-2323 County: Kern

Project Location: County: Kern City/Nearest Community: Lost Hills

Cross Streets: Holloway Road & GP Road Zip Code: 93249

Lat. / Long.: 35.64138°N / 119.76580° W Total Acres: 337

Assessor's Parcel No.: 057-220-16; 057-240-29,50 & 60 Section: 24; 25 Twp.: 26S Range: 20E Base: MDB&M

Within 2 Miles: State Hwy #: 46 Waterways: California Aqueduct

Airports: _____ Railways: _____ Schools: _____

Document Type:

- | | | | |
|--------------------------------------|--|------------------------------------|--|
| CEQA: <input type="checkbox"/> NOP | <input checked="" type="checkbox"/> Draft EIR | NEPA: <input type="checkbox"/> NOI | Other: <input type="checkbox"/> Joint Document |
| <input type="checkbox"/> Early Cons | <input type="checkbox"/> Supplement/Subsequent EIR | <input type="checkbox"/> EA | <input type="checkbox"/> Final Document |
| <input type="checkbox"/> Neg Dec | (Prior SCH No.) _____ | <input type="checkbox"/> Draft EIS | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Mit Neg Dec | Other _____ | <input type="checkbox"/> FONSI | |

Local Action Type:

- | | | | |
|---|---|--|---|
| <input type="checkbox"/> General Plan Update | <input type="checkbox"/> Specific Plan | <input type="checkbox"/> Rezone | <input type="checkbox"/> Annexation |
| <input type="checkbox"/> General Plan Amendment | <input type="checkbox"/> Master Plan | <input type="checkbox"/> Prezone | <input type="checkbox"/> Redevelopment |
| <input type="checkbox"/> General Plan Element | <input type="checkbox"/> Planned Unit Development | <input checked="" type="checkbox"/> Use Permit | <input type="checkbox"/> Coastal Permit |
| <input type="checkbox"/> Community Plan | <input type="checkbox"/> Site Plan | <input type="checkbox"/> Land Division (Subdivision, etc.) | <input type="checkbox"/> Other _____ |

Development Type:

- | | |
|---|---|
| <input type="checkbox"/> Residential: Units _____ Acres _____ | <input type="checkbox"/> Water Facilities: Type _____ MGD _____ |
| <input type="checkbox"/> Office: Sq.ft. _____ Acres _____ Employees _____ | <input type="checkbox"/> Transportation: Type _____ |
| <input type="checkbox"/> Commercial: Sq.ft. _____ Acres _____ Employees _____ | <input type="checkbox"/> Mining: Mineral _____ |
| <input type="checkbox"/> Industrial: Sq.ft. _____ Acres _____ Employees _____ | <input checked="" type="checkbox"/> Power: Type <u>Bioenergy</u> MW <u>3</u> |
| <input type="checkbox"/> Educational _____ | <input type="checkbox"/> Waste Treatment: Type _____ MGD _____ |
| <input type="checkbox"/> Recreational _____ | <input type="checkbox"/> Hazardous Waste: Type _____ |
| | <input checked="" type="checkbox"/> Other: <u>Non-Hazardous Waste Disposal & Composting</u> |

Project Issues Discussed in Document:

- | | | | |
|--|--|---|--|
| <input checked="" type="checkbox"/> Aesthetic/Visual | <input type="checkbox"/> Fiscal | <input checked="" type="checkbox"/> Recreation/Parks | <input checked="" type="checkbox"/> Vegetation |
| <input type="checkbox"/> Agricultural Land | <input checked="" type="checkbox"/> Flood Plain/Flooding | <input checked="" type="checkbox"/> Schools/Universities | <input checked="" type="checkbox"/> Water Quality |
| <input checked="" type="checkbox"/> Air Quality | <input checked="" type="checkbox"/> Forest Land/Fire Hazard | <input checked="" type="checkbox"/> Septic Systems | <input checked="" type="checkbox"/> Water Supply/Groundwater |
| <input checked="" type="checkbox"/> Archeological/Historical | <input checked="" type="checkbox"/> Geologic/Seismic | <input type="checkbox"/> Sewer Capacity | <input checked="" type="checkbox"/> Wetland/Riparian |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Minerals | <input checked="" type="checkbox"/> Soil Erosion/Compaction/Grading | <input checked="" type="checkbox"/> Wildlife |
| <input type="checkbox"/> Coastal Zone | <input checked="" type="checkbox"/> Noise | <input checked="" type="checkbox"/> Solid Waste | <input checked="" type="checkbox"/> Growth Inducing |
| <input checked="" type="checkbox"/> Drainage/Absorption | <input type="checkbox"/> Population/Housing Balance | <input checked="" type="checkbox"/> Toxic/Hazardous | <input checked="" type="checkbox"/> Land Use |
| <input type="checkbox"/> Economic/Jobs | <input checked="" type="checkbox"/> Public Services/Facilities | <input checked="" type="checkbox"/> Traffic/Circulation | <input checked="" type="checkbox"/> Cumulative Effects |
| <input type="checkbox"/> Other _____ | | | |

Present Land Use/Zoning/General Plan Designation:

Existing Class III Non-Hazardous Landfill and Surface Mining. Kern County General Plan: 3.4(Solid Waste Facilities); 3.4.1 ((Solid Waste Disposal Facility Buffer); Zoning: A (Exclusive Agriculture).

Project Description: The project includes a request for land use entitlements necessary to facilitate the continued and expanded use of an existing Class III Non-Hazardous Landfill; the future construction and operation of an extended Aeration Static Pile composting facility; and the future construction and operation of a Waste-to-Energy biomass gasification facility and associated infrastructure to generate a combined 3 megawatts of renewable electrical energy on approximately 337 acres of privately-owned land. Implementation of the project as proposed would require: a) Modification No. 1 of Conditional Use Permit (CUP) #1, Map 28; b) Issuance of CUP #13, Map 28; and c) Modification No. 2 of CUP #9, Map 28.

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

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

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

Starting Date May 18, 2021 Ending Date July 1, 2021

Lead Agency (Complete if applicable):

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

Signature of Lead Agency Representative: _____ **Date:** May 18, 2021

Cindi Hoover, Supervising Planner

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

Draft Environmental Impact Report

SCH# 2019100659

Volume 1
Chapters 1 through 11

**Lost Hills Composting and Bioenergy
By Lost Hills Environmental, LLC**

**Modification No. 1, CUP #1, Map 28; CUP #13, Map 28;
Modification No. 2, CUP #9, Map 28**



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- Appendix B:** Air Quality Technical Report and Supporting Information
- Appendix C:** Biological Resources Technical Studies
- Appendix D:** Cultural Resources Records Search
- Appendix E:** Energy Study
- Appendix F:** Geotechnical Evaluation and Soils Technical Studies

Volume 3

- Appendix G:** Hazards and Hazardous Materials Technical Studies
- Appendix H:** Annual KCEHSD/CalRecycle Report
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- Appendix J:** Water Supply Assessment
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1.1 Introduction

The Lost Hills Composting and Bioenergy Project (project), proposed by Lost Hills Environmental, LLC (project proponent/operator), would develop an extended Aerated Static Pile (eASP) composting operation (Section 19.12.030.H) in an A (Exclusive Agriculture) Zone District, and, in conjunction with Aries Clean Energy, LLC, a separate 3-megawatt (MW) bioenergy facility (Section 19.12.030.H) in an A Zone District. Additionally, the project would allow for additional waste streams to be disposed of within the existing Lost Hills Environmental Industrial Landfill. The project proponent/operator is also requesting California Environmental Quality Act (CEQA) review for the project.

The project proponent is requesting modifications to two existing Conditional Use Permits (CUPs) and requesting one CUP to be issued for the following:

- The construction and operation of a 640,000-ton-per-year (TPY) eASP composting operation, in response to State climate law mandates to increase composting as part of landfill-related greenhouse gas (GHG) emission reductions, on a 136.2-acre portion of the existing 331-acre Lost Hills Environmental Industrial Landfill that has reached capacity;
- Allow for additional waste streams to be disposed of within the landfill;
- Extend the hours of operation to 24 hours per day, 365 days per year; and
- The construction and operation of a 3 MW (net) bioenergy facility on an approximate 6-acre portion of the Holloway Gypsum Mine.

The project site is comprised of two adjacent sites, Sites A and B, which are separated by Holloway Road. Site A is an existing Class III non-hazardous industrial waste landfill facility located at 14045 Holloway Road on the west side of Holloway Road at the G P Road junction. Existing landfill operations and the future eASP composting facility will be sited within Site A. Site B is an equipment staging and storage lot on the east side of Holloway Road, north of G P Road and would be the future site of the proposed bioenergy facility. The sites are approximately 1.5 miles and 2.25 miles, respectively, north of State Route (SR-) 46 (**Figure 1-1, Regional Vicinity**, and **Figure 1-2, Site Vicinity**). The existing General Plan land use designations and zoning classifications for the project site and surrounding lands are shown on **Figure 1-3, Existing General Plan Designations**, and **Figure 1-4, Existing Zoning Classifications**.

The project site is in an unincorporated area of northwestern Kern County on four privately owned parcels. The Assessor Parcel Numbers (APNs) are listed in **Table 1-1, Project Assessor Parcel Numbers – Kern County** and shown on **Figure 1-2, Site Vicinity**. **Figure 1-5,**

Composting Facility Site Layout, and **Figure 1-6**, *Typical Pile Layout*, illustrate a detailed site plan for the proposed composting facility, and **Figure 1-7** through **Figure 1-13**, *Bioenergy Facility Site Layout*, illustrate the detailed site plan for the proposed bioenergy facility.

Table 1-1 Existing Land Uses, Land Use Designations, and Zoning

Site	APN	Acreage (approximate)	Zoning	Kern County General Plan Designation
Sites B	057-220-16	6.36	A (Exclusive Agriculture)	3.4.1 (Solid Waste Disposal Facility Buffer)
Site A	057-240-29	30.14	A (Exclusive Agriculture)	3.4 (Solid Waste Facilities)
Site A	057-240-50	1.72 acres	A (Exclusive Agriculture)	3.4.1/2.10 (Solid Waste Disposal Facility Buffer / Nearby Waste Facilities)
Site A	057-240-60	308.94 acres	A (Exclusive Agriculture)	3.4 (Solid Waste Facilities)

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

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

1.1.1 Site A

The project proponent owns Site A and operates the existing Lost Hills Environmental Industrial Landfill, which has been in operation as a permitted landfill since 2008. Operation of the 331-acre landfill is allowed by CUP #9, Map 28. No permitted facility or permitted disposal area boundary changes are proposed to CUP #9, Map 28.

Site A was previously known as H.M. Holloway Inc. Landfill, and prior to that, the H.M. Holloway Gypsum Mine. The existing landfill is situated on 331 acres of previously mined land and consists of pits known as Pit “E,” Pit “F,” and Pit “G,” as well as a connecting pit referred to as Pit “FG.” These pits provide a total disposal footprint of 193 gross acres (includes total acreage of active landfill pit areas and surrounding buffers; 176 net acres not including buffers); the remaining 138 acres are a buffer and utilized for ancillary activities, including, but not limited to, overburden storage, monitoring equipment, a leachate system, water storage, a truck washing station, and a required buffer area around the facility. H.M. Holloway Inc. continues to operate a gypsum mine facility immediately north/northwest of Site A; however, the mine is not included within the project boundary.

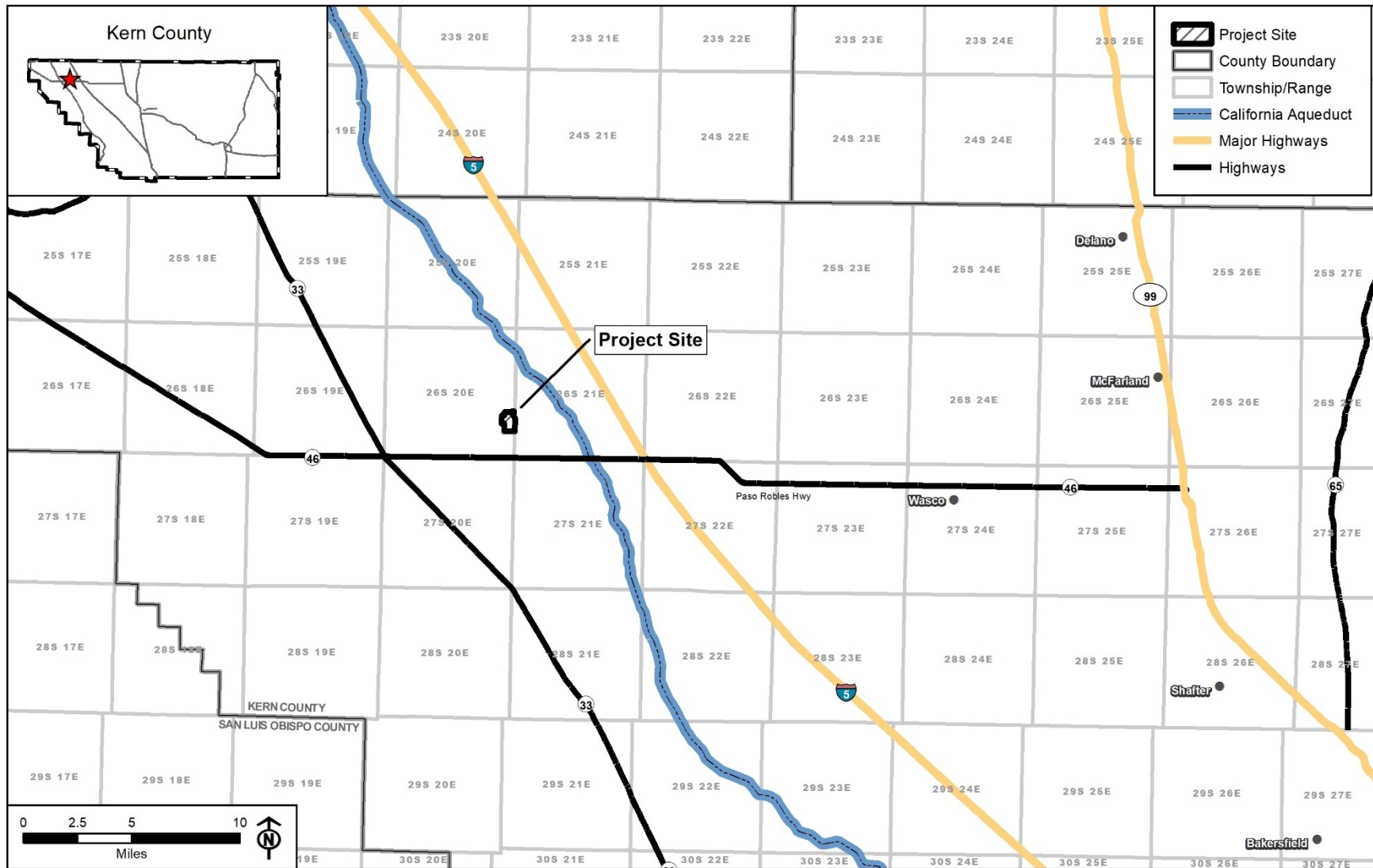
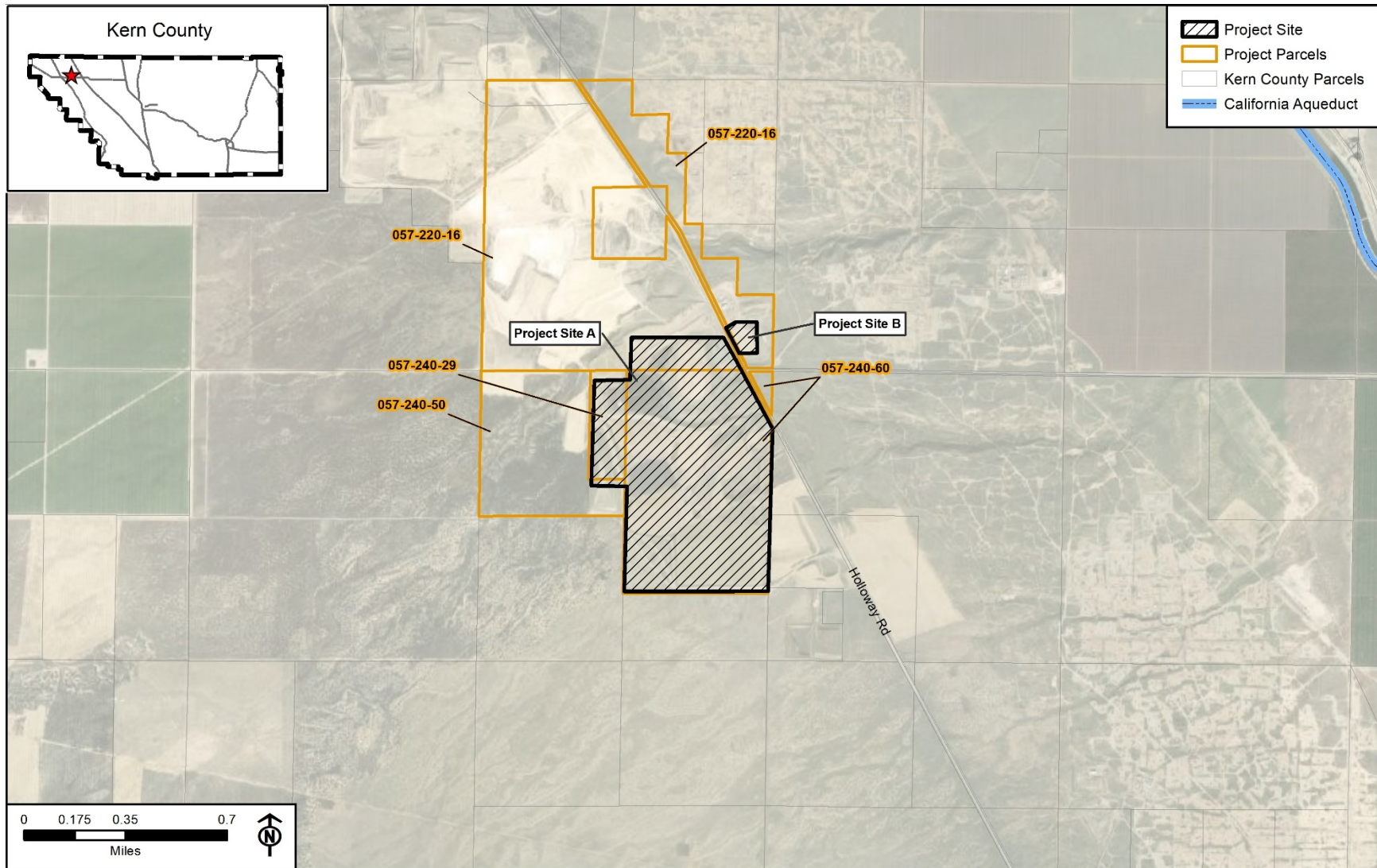
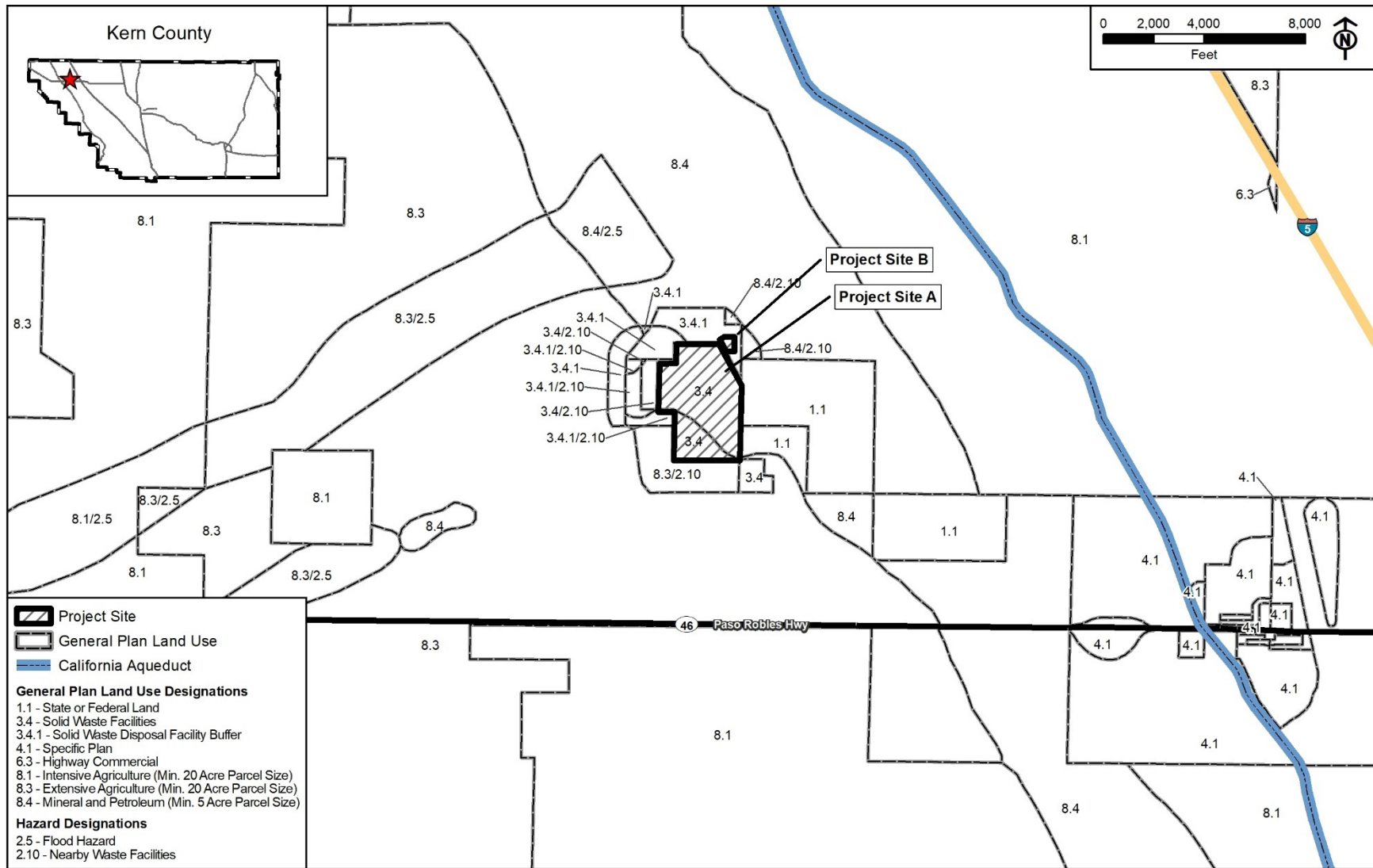


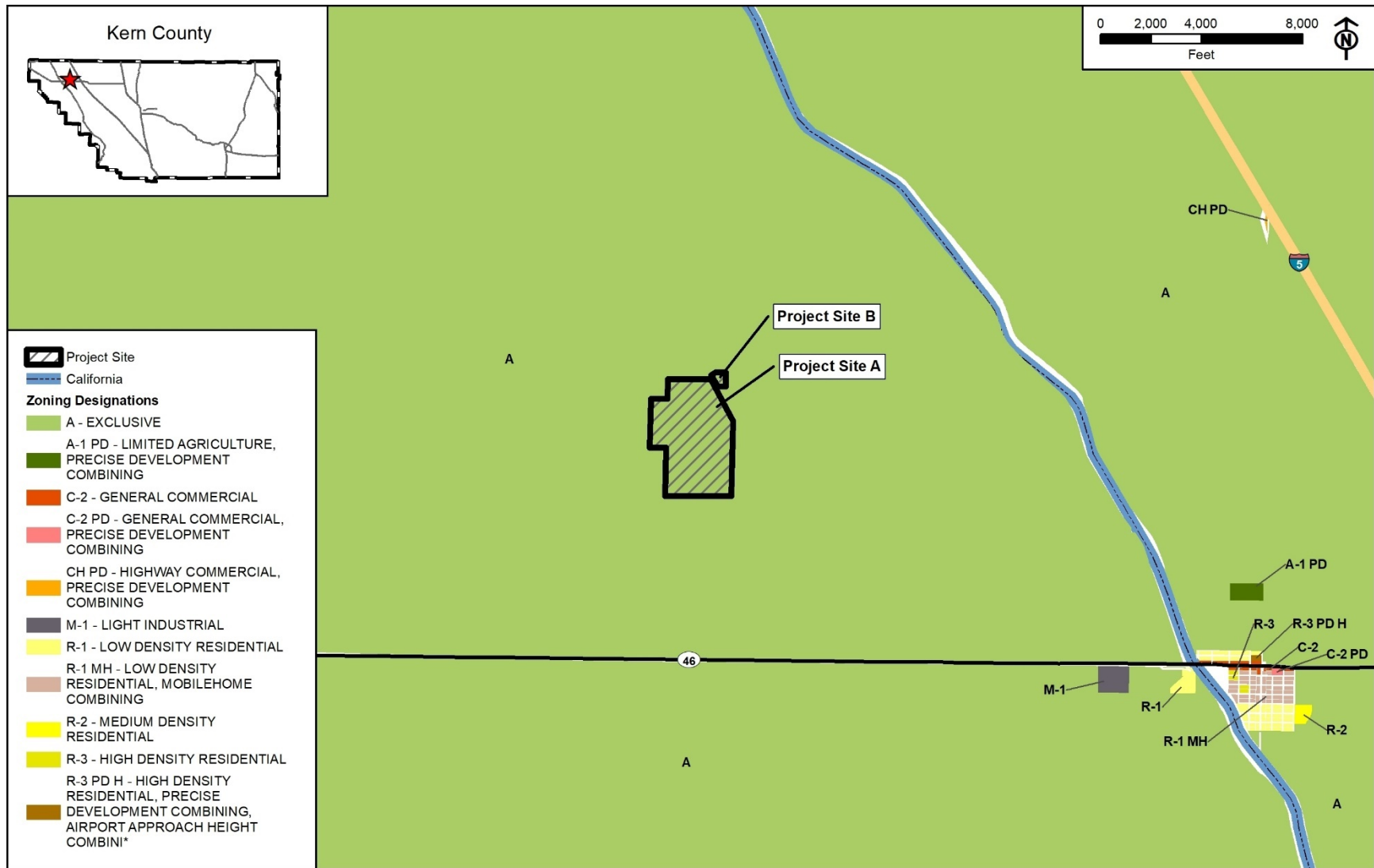
Figure 1-1
Regional Vicinity



**Figure 1-2
Site Vicinity**



**Figure 1-3
 Existing General Plan Designations**



**Figure 1-4
 Existing Zoning Classifications**

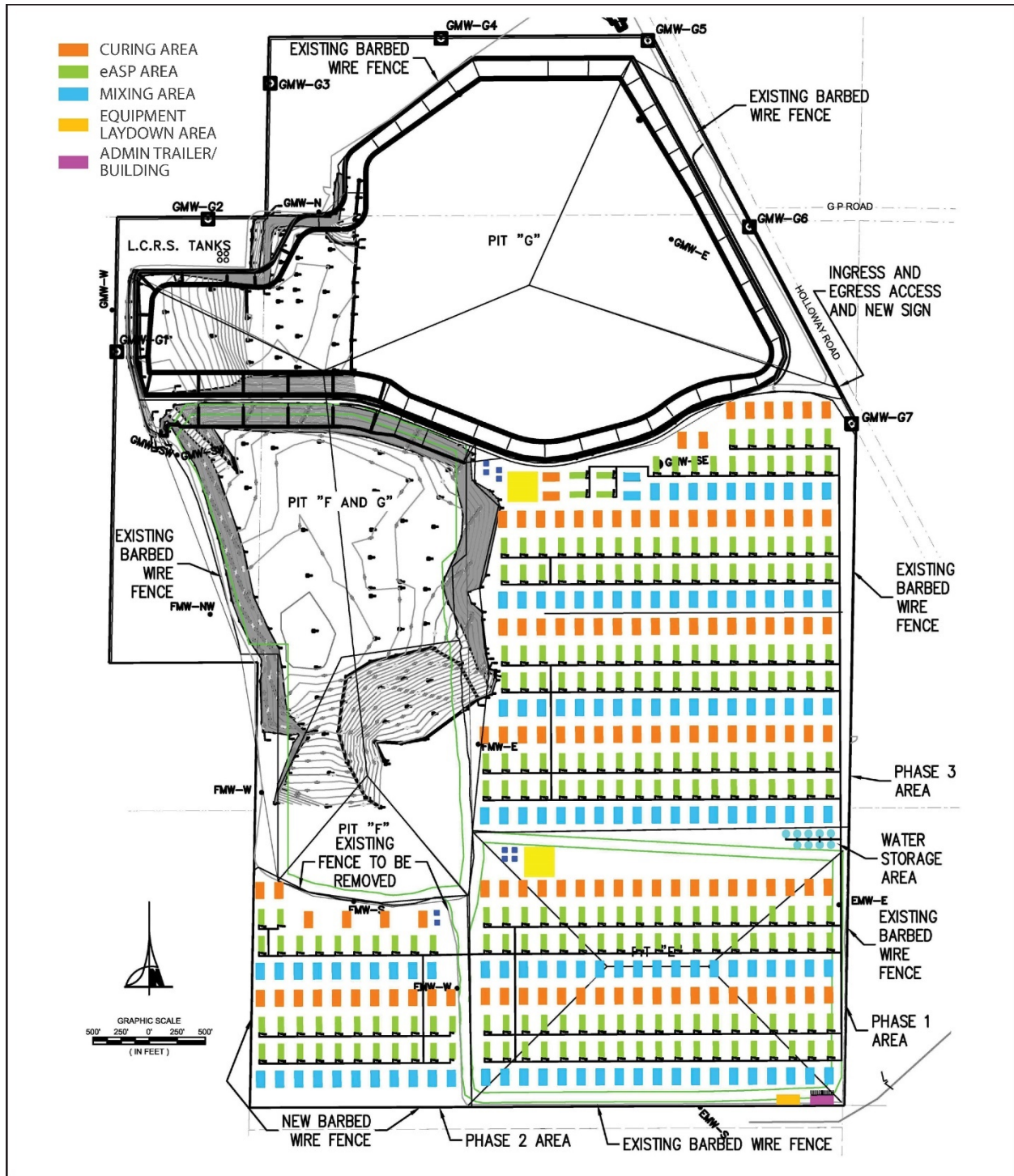


Figure 1-5
Composting Facility Site Layout

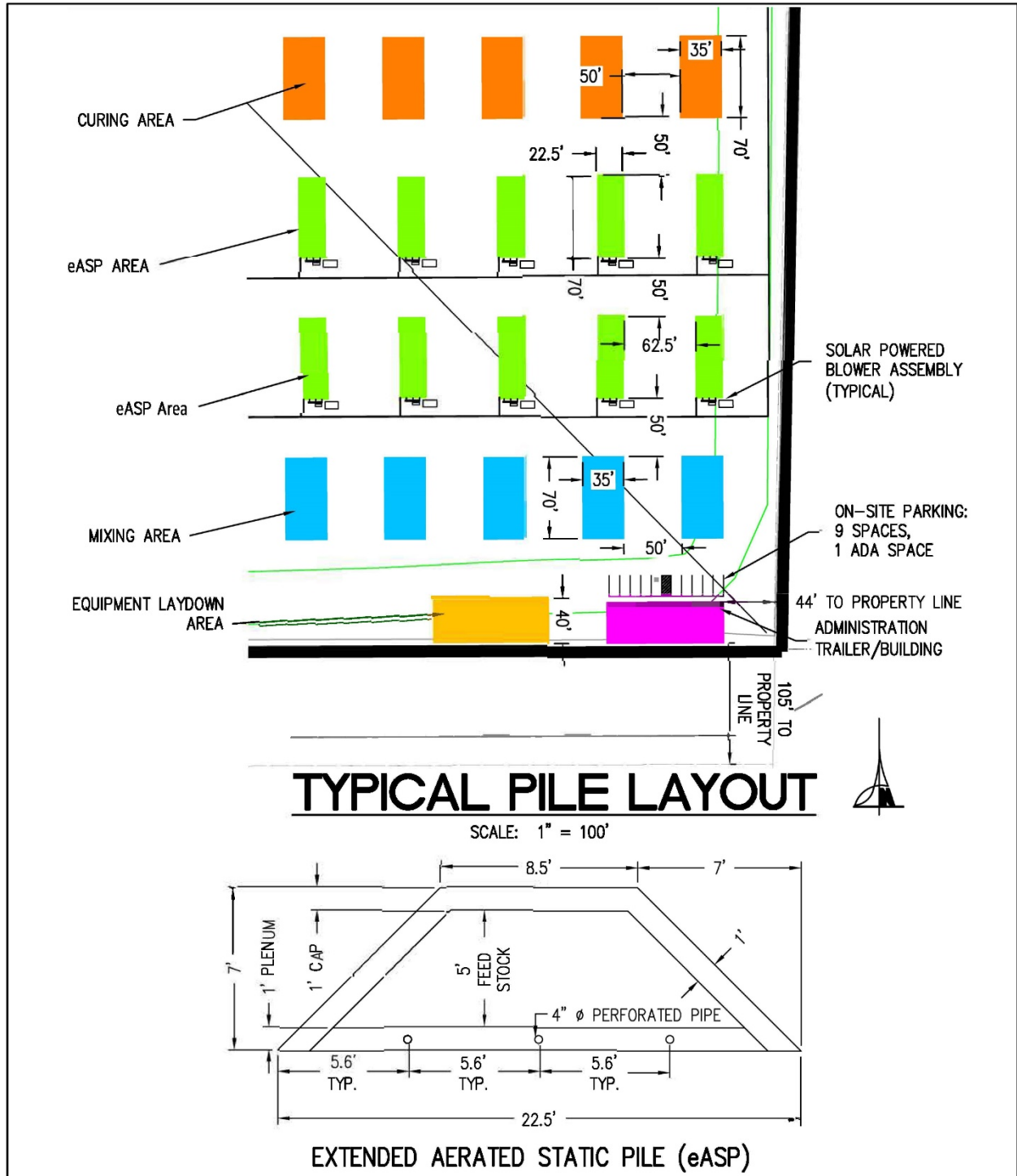
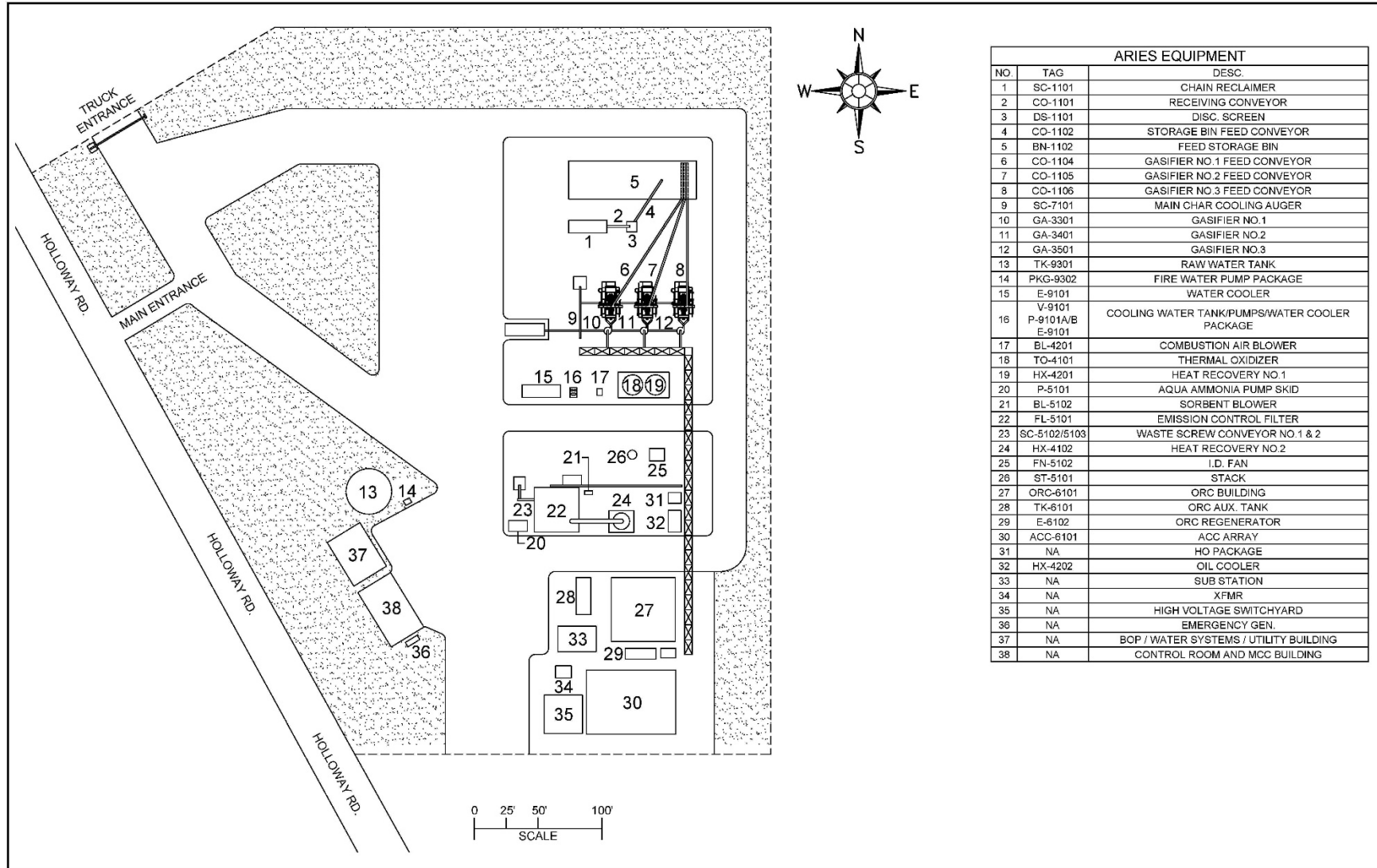


Figure 1-6
Typical Pile Layout



ARIES EQUIPMENT		
NO.	TAG	DESC.
1	SC-1101	CHAIN RECLAIMER
2	CO-1101	RECEIVING CONVEYOR
3	DS-1101	DISC. SCREEN
4	CO-1102	STORAGE BIN FEED CONVEYOR
5	BN-1102	FEED STORAGE BIN
6	CO-1104	GASIFIER NO.1 FEED CONVEYOR
7	CO-1105	GASIFIER NO.2 FEED CONVEYOR
8	CO-1106	GASIFIER NO.3 FEED CONVEYOR
9	SC-7101	MAIN CHAR COOLING AUGER
10	GA-3301	GASIFIER NO.1
11	GA-3401	GASIFIER NO.2
12	GA-3501	GASIFIER NO.3
13	TK-9301	RAW WATER TANK
14	PKG-9302	FIRE WATER PUMP PACKAGE
15	E-9101	WATER COOLER
16	V-9101 P-9101A/B E-9101	COOLING WATER TANK/PUMPS/WATER COOLER PACKAGE
17	BL-4201	COMBUSTION AIR BLOWER
18	TO-4101	THERMAL OXIDIZER
19	HX-4201	HEAT RECOVERY NO.1
20	P-5101	AQUA AMMONIA PUMP SKID
21	BL-5102	SORBENT BLOWER
22	FL-5101	EMISSION CONTROL FILTER
23	SC-5102/5103	WASTE SCREW CONVEYOR NO.1 & 2
24	HX-4102	HEAT RECOVERY NO.2
25	FN-5102	I.D. FAN
26	ST-5101	STACK
27	ORC-6101	ORC BUILDING
28	TK-6101	ORC AUX. TANK
29	E-6102	ORC REGENERATOR
30	ACC-6101	ACC ARRAY
31	NA	HO PACKAGE
32	HX-4202	OIL COOLER
33	NA	SUB STATION
34	NA	XFMR
35	NA	HIGH VOLTAGE SWITCHYARD
36	NA	EMERGENCY GEN.
37	NA	BOP / WATER SYSTEMS / UTILITY BUILDING
38	NA	CONTROL ROOM AND MCC BUILDING

Figure 1-7
 Bioenergy Facility Site Layout

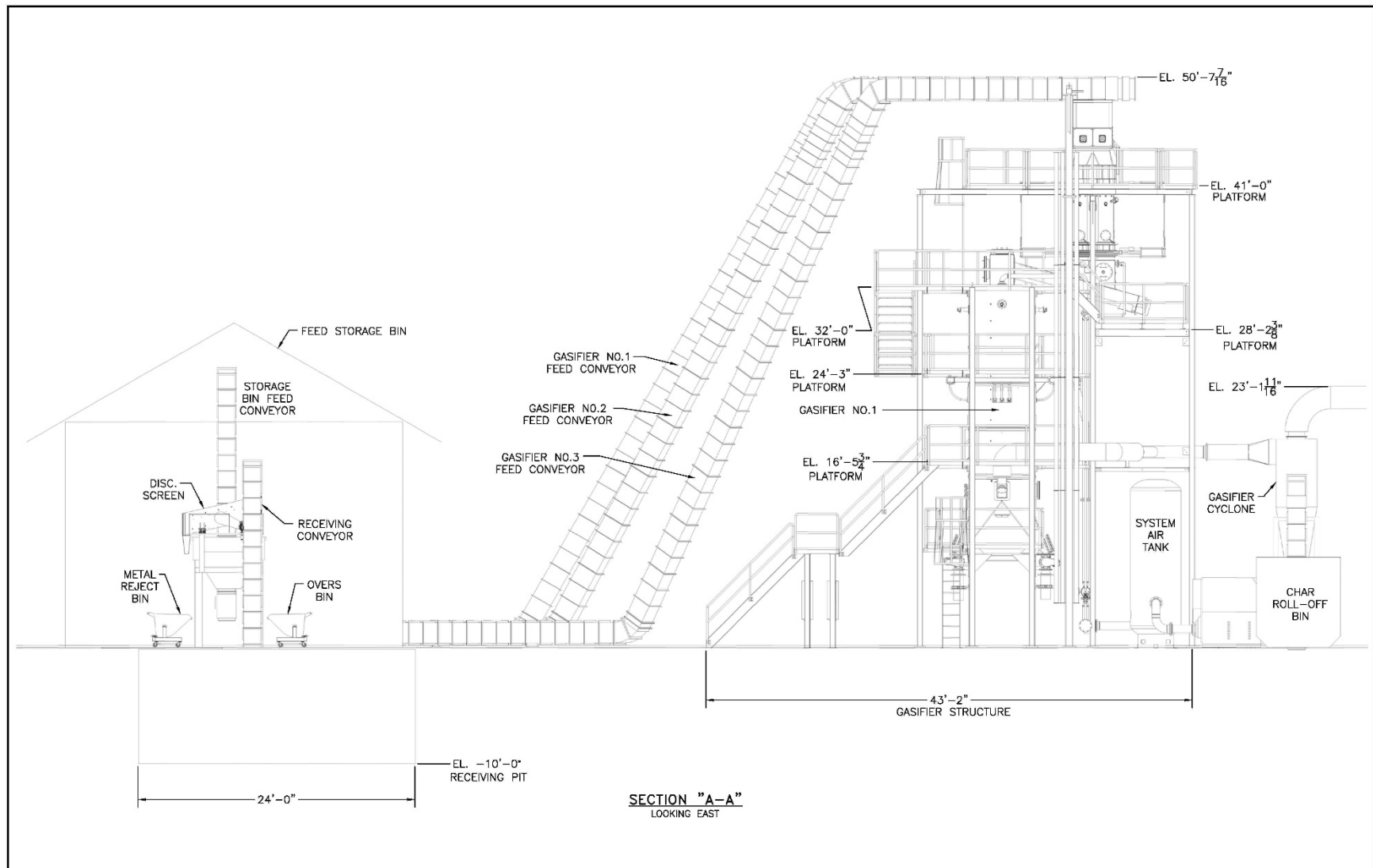


Figure 1-8
Bioenergy Facility Site Layout: Section A-A

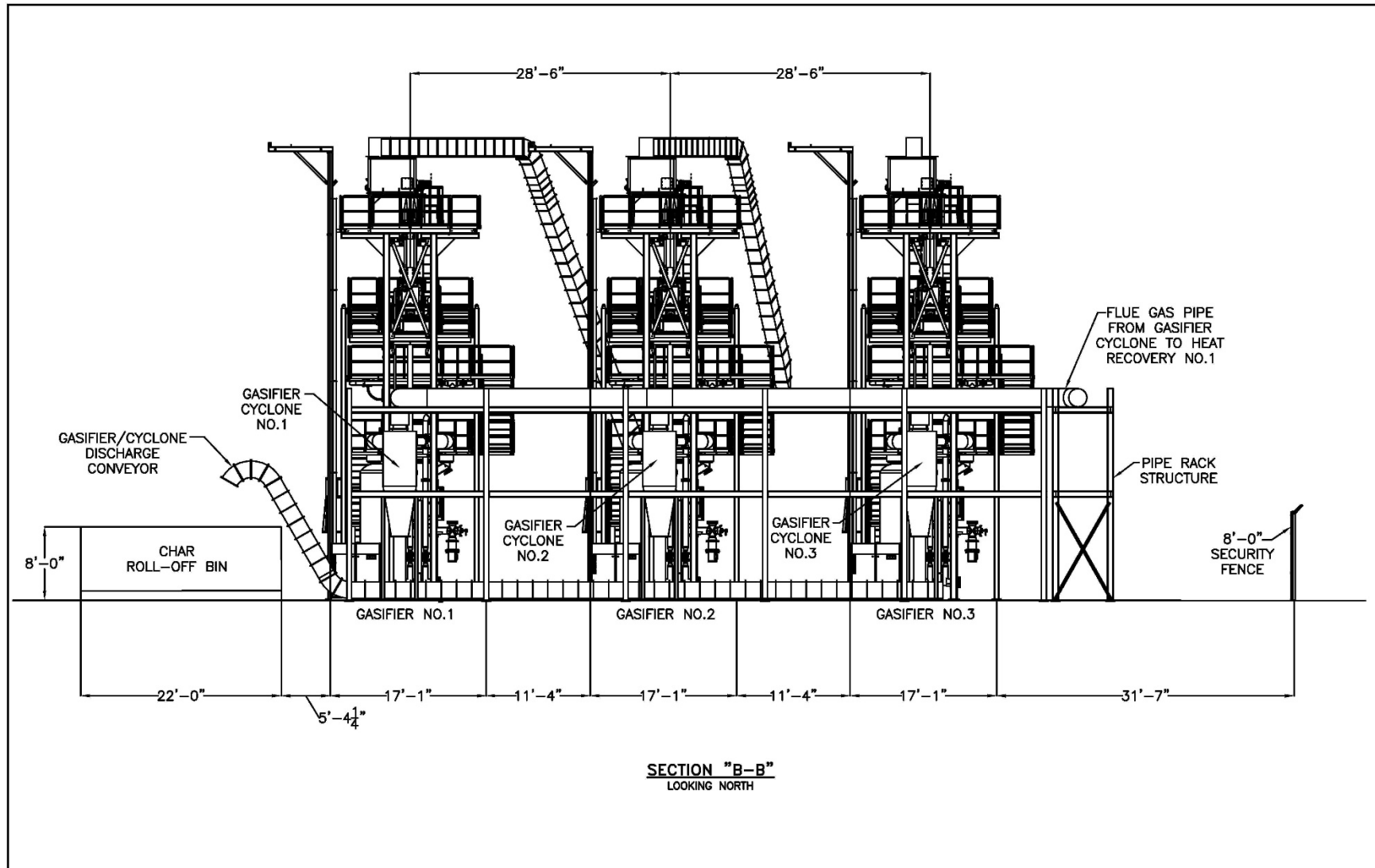


Figure 1-9
Bioenergy Facility Site Layout: Section B-B

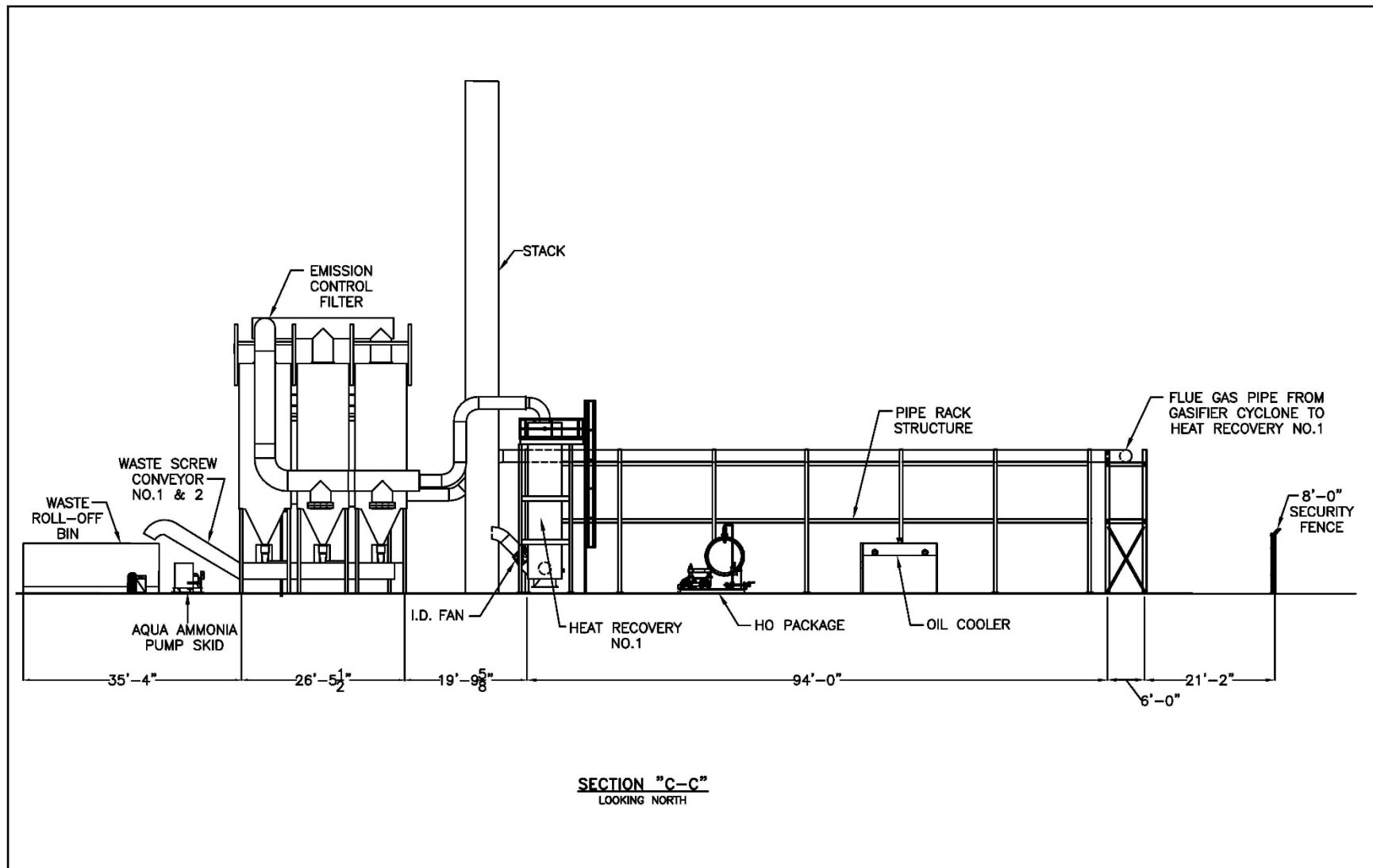


Figure 1-10
Bioenergy Facility Site Layout: Section C-C

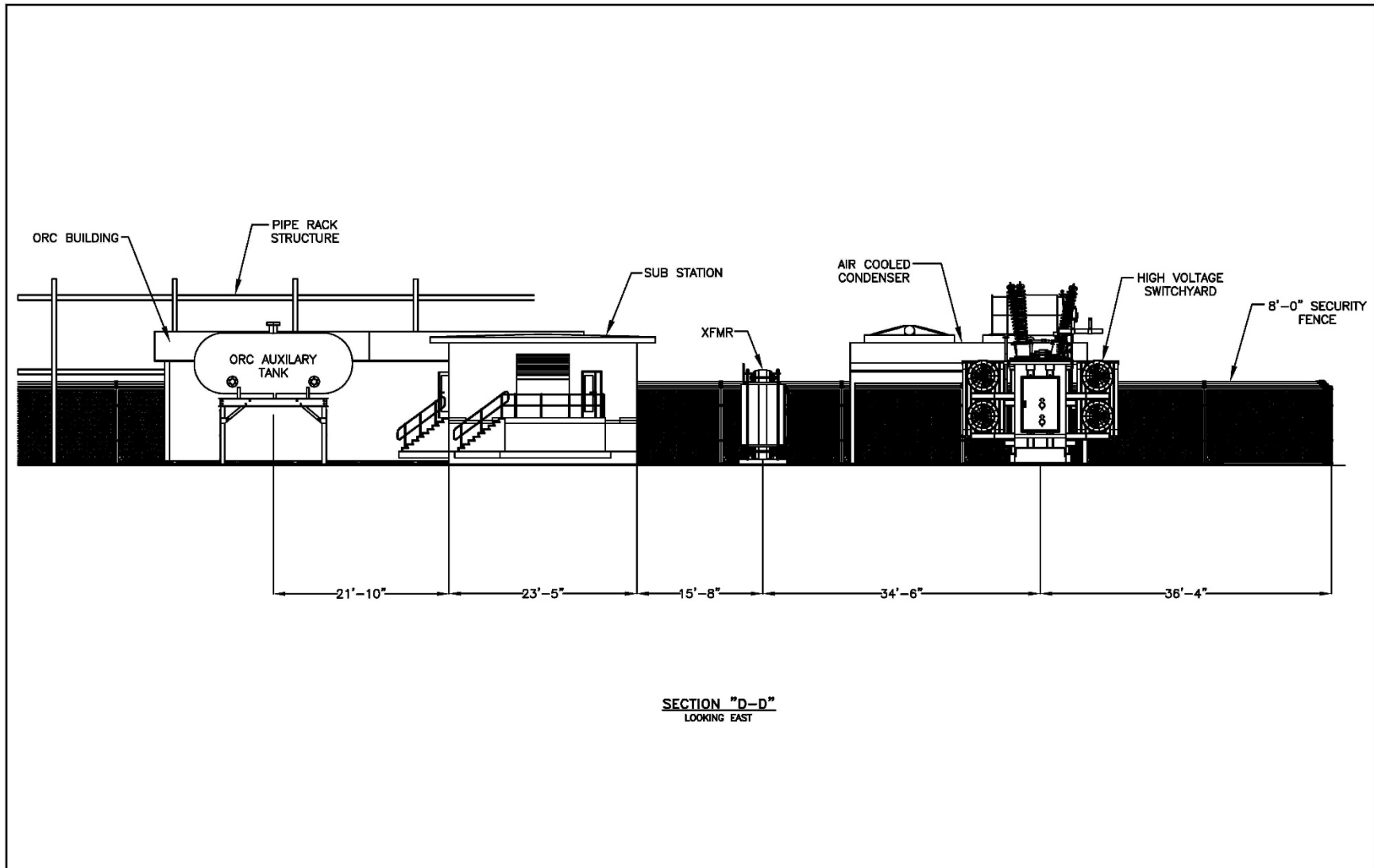


Figure 1-11
Bioenergy Facility Site Layout: Section D-D

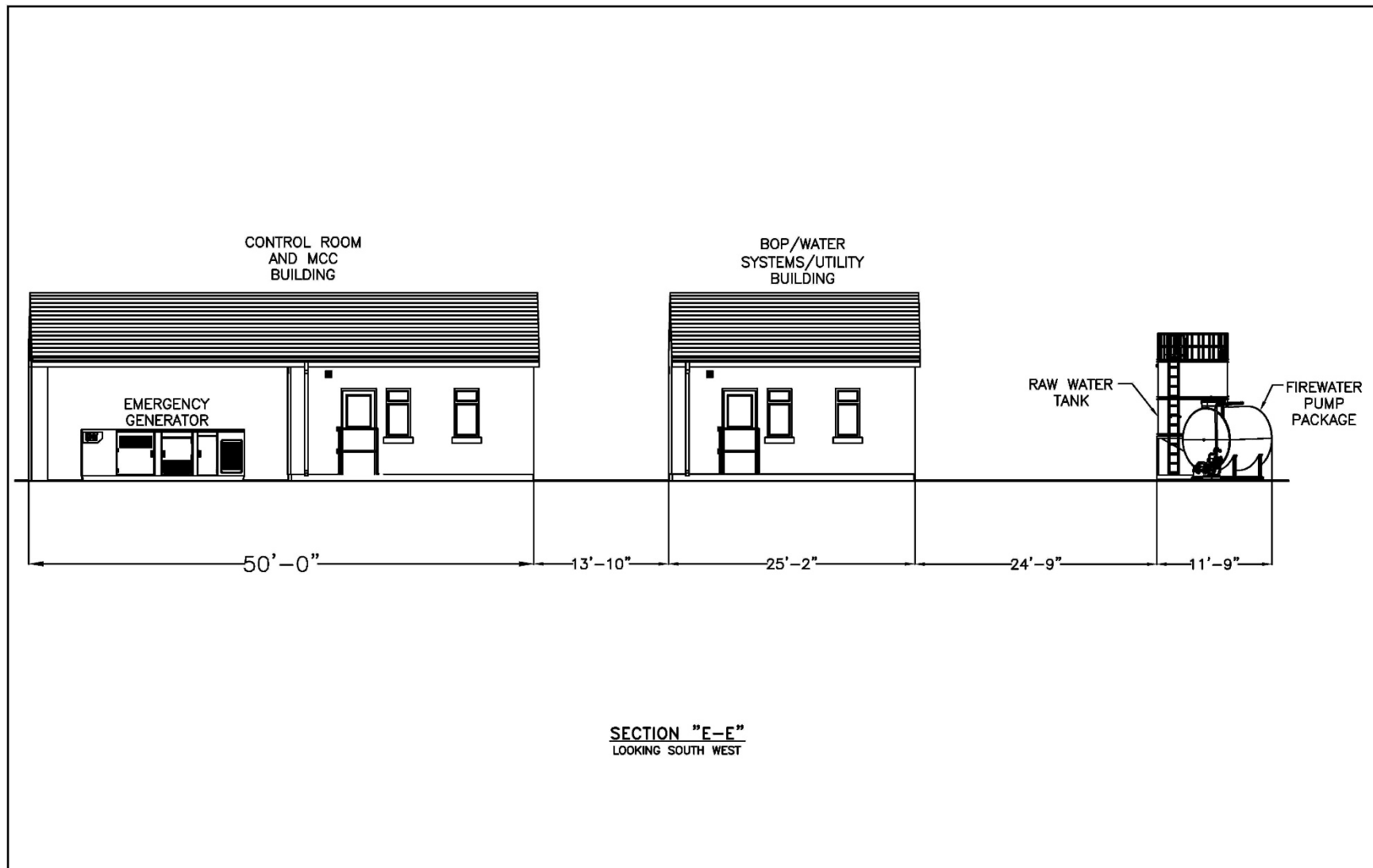


Figure 1-12
Bioenergy Facility Site Layout: Section E-E

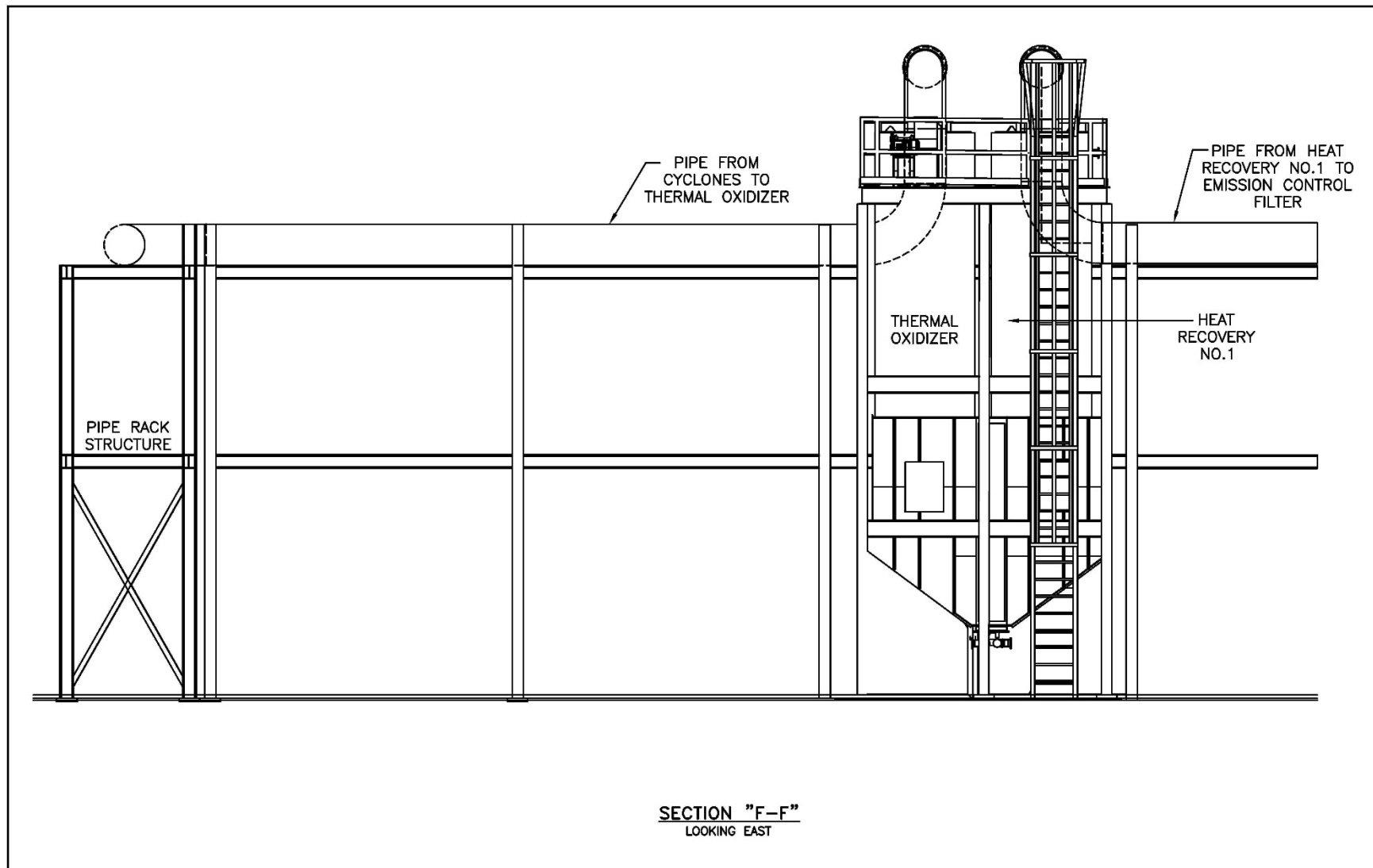


Figure 1-13
Bioenergy Facility Site Layout: Section F-F

As shown in **Figure 1-2, Site Vicinity**, Site A is primarily accessible from the west side of Holloway Road, specifically from three entrance/exit points. The project proposes to utilize the existing landfill accesses, with the addition of directional traffic flow identifying ingress and egress for the site; therefore, no new site access is proposed as part of this project.

1.1.2 Site B

The project proponent owns Site B and utilizes the area for equipment staging and storage for the H.M. Holloway Gypsum Mine, as conditioned in CUP #1, Map 28. The project proponent has requested approximately 6 acres be removed from CUP #1, Map 28 to create Site B for the proposed bioenergy facility. A new CUP is requested to allow for construction and operation of the bioenergy facility.

Site B is currently accessible from access along the east side of Holloway Road. The future bioenergy facility would utilize the current Site B access, with the addition of directional traffic flow identifying ingress and egress for the site; therefore, no new site access is proposed.

1.2 Project Summary

As discussed in more detail in the following sections, the project proponent is requesting the following discretionary actions from Kern County:

- (a) **Modification No. 1, CUP #1, Map 28:** Amendment to the boundaries of CUP #1, Map 28 of the existing mining facility to remove 6 acres, which will become the location for the proposed bioenergy facility.
- (b) **Issuance of CUP #13, Map 28:** Establishment of a new CUP that would facilitate the construction of a 3-MW (net) bioenergy facility.
- (c) **Modification No. 2, CUP #9, Map 28:** Amendment to CUP #9, Map 28 of the existing Class III Non-Hazardous Industrial Waste Landfill to include:
 - a revision in the allowable waste streams permitted at the landfill to allow the acceptance and disposal of various materials; and
 - a revision to allow for an increase in permitted hours of operation and construction and operation of an eASP composting facility sited on 136.2 acres within the current permitted landfill facility boundary. Material accepted for composting at the facility would include biosolids, green waste, food waste, manure, and wood waste, for a total 640,000 TPY.

1.2.1 Discretionary Entitlements Required

The anticipated approvals needed for the project include adoption of a CUP and modification of two CUPs. Construction and operation of the proposed eASP composting facility and

bioenergy facility may require additional local, State, and Federal entitlements; as well as discretionary and ministerial actions and approvals listed, but not limited to, below:

Local

- Kern County Planning Commission
 - Certification of Final Environmental Impact Report
 - Adoption of 15091, Findings of Fact, and 15093, Statement of Overriding Considerations
 - Approval of Mitigation Monitoring and Reporting Program
 - Approval of Kern County Conditional Use Permit (Modification 1, CUP 1, Map 28)
 - Approval of Kern County Conditional Use Permit (CUP 13, Map 28)
 - Approval of Kern County Conditional Use Permit (Modification 2, CUP 9, Map 28)
- Kern County Public Health Services Department, Environmental Health Services Division
 - Solid Waste Facility Permit
 - Joint Technical Document
 - Report of Compost Site Information
 - Odor Impact Minimization Plan
- Kern County Public Works – Operations & Maintenance
 - Amendment to the Non-Disposal Facility Element of the Kern County Integrated Waste Management Plan
- Kern County Public Works – Building and Development, Flood Plain & Survey
 - Grading Permits
 - Building Permits
- Kern County Fire Department
 - Fire Safety Plan
- San Joaquin Valley Air Pollution Control District (SJVAPCD)
 - Authority to Construct
 - Fugitive Dust Control Plan
 - Permit to Operate
 - Any other permits as required

State

- California Department of Resources, Recycling and Recovery (CalRecycle)
 - Solid Waste Facility Permit

- Joint Technical Document
- Report of Compost Site Information
- Odor Impact Minimization Plan
- California Department of Fish and Wildlife (CDFW)
 - Section 1600 et seq. permits (Streambed Alteration Agreements) (if required)
 - Section 2081 Permit (State-listed endangered species) (if required)
- Central Valley Regional Water Quality Control Board
 - Water Quality Certification (401 Permit) (if required)
 - Waste Discharge Requirements (if required)
 - National Pollution Discharge Elimination System (NPDES) Construction General Permit
- California Department of Transportation (Caltrans)
 - Oversized Loads Permit

Federal

- U.S. Fish and Wildlife Service (USFWS)
 - Section 10 Permit (Incidental Take and Habitat Conservation Plan Agreement) (if required)

Other applicable 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 for planning and decision-making purposes. The Kern County Planning Commission will consider the information in the EIR, including the public comments and staff response to those comments, during the public hearing process. As a legislative action, the final decision is made by the Planning Commission (unless the decision of the Planning Commission is appealed to the Board of Supervisors), who may approve, conditionally approve, or deny the project. The purpose of an EIR is to identify:

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

An EIR also discloses growth-inducing impacts, impacts found not to be significant, and significant cumulative impacts of past, present, and reasonably anticipated future projects. CEQA requires an EIR be prepared that reflects the independent judgment of the Lead Agency

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

This 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 State CEQA *Guidelines* Section 15087. The EIR process, including means by which members of the public can comment on the EIR, is discussed further in Chapter 2, *Introduction*.

1.4 Project Overview

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

1.4.1 Local and Regional Setting

The project site (Sites A and B) is in the unincorporated area of northwestern Kern County on Kern County APNs 057-220-16, 057-240-29, 057-240-50, and 057-240-60 (see **Figure 1-1**, *Regional Vicinity*, and **Figure 1-2**, *Site Vicinity*). The unincorporated community of Lost Hills is located approximately 4.3 miles to the southeast, the City of Wasco is approximately 20 miles to the east, and the Cities of Delano and Shafter are 25 miles northeast and 27 miles southeast, respectively. Two State highways (SR-46 and SR-33) are located 1.6 miles south and 6.4 miles west, respectively, from the project site. Interstate (I-) 5 is located approximately 5 miles east of the project site. Land within the project vicinity is generally characterized as a sparsely developed, rural agricultural area located in western Kern County.

1.4.2 Surrounding Land Uses

The project site, as currently permitted, is located on a graded site that has been developed and remains in operation as a landfill and mining facility. The project site is generally characterized as a sparsely developed, rural, agricultural area. Surrounding land uses include the H.M. Holloway Gypsum Mine to the north, a closed Kern County landfill and other undeveloped land to the south, undeveloped Federal land and the 3,000-acre Lost Hills Oil Field (owned and operated by various producers) to the east, and undeveloped land to the west. Other adjacent or nearby land uses include orchard and row-crop farming, rural access roads, a biosolids/green

waste composting operation (Liberty Composting), and two State highways (SR-46 and SR-33).

The nearest residence to the project site is 2.3 miles east of the project site at Munger Farms. The nearest community, Lost Hills, is located approximately 4.3 miles southeast of the project site. There are no designated State Scenic Highways located in the project vicinity, no railroads located in the vicinity of the project site, and no known historic resources in the project site.

The California Aqueduct is the nearest major waterway and is approximately 2.13 miles to the east of the project site. There are 12 groundwater monitoring wells located within the 331-acre Site A boundary. There are currently three groundwater monitoring wells associated with Pit E, four associated with Pit F, and five associated with Pit G. The Pit FG Connection Area is covered by wells associated with both Pits F and G.

According to the California Department of Conservation (CDOC) Kern County Important Farmland 2016 Map, the project site is identified as Vacant or Disturbed Land. Lands within the project boundary is not subject to a Williamson Act Land Use contract. The project site is excluded from Kern County Agricultural Preserve No. 5.

The climate in the area is semi-arid with total annual precipitation over the past 30 years averaging approximately 5.7 inches with a range of 1 to 14 inches. Rainfall typically occurs between the months of January and March. Occasional thunderstorms may occur in August, but do not account for much of the annual precipitation. Winter months are mild with temperatures averaging 20 degrees Fahrenheit (°F) to 50°F. Summers are harsh and dry with temperatures ranging from 60°F to over 100°F.

Vegetation throughout the project site consists of developed areas, ruderal areas, and nonnative annual grassland. Land use records indicate that, prior to development of the project site with the existing landfill facility, the entire project site was historically used for surface mining of gypsum.

The project site is not located within the boundaries of any airport as identified in the Kern County Airport Land Use Compatibility Plan (ALUCP). The closest public airport is the Lost Hills Airport, located approximately 4 miles east of the project site. The project site is located within the San Joaquin Valley Air Basin (SJVAB).

The project site is not located within a Federal Emergency Management Agency (FEMA) designated flood zone; the closest designated flood zone is located approximately 1 mile northwest of the project site.

Based on a review of records maintained by the CDOC California Geologic Energy Management Division (CalGEM; formerly the Division of Oil, Gas and Geothermal Resources [DOGGR]), wells were not identified on the project site (CDOC 2019). Records maintained by the Kern County Assessor indicate the project site is located on designated Mineral Rights APNs (057-220-16, 057-240-29, and 057-240-60).

The project would be served by the Kern County Sheriff's Office (KCSO) for law enforcement and public safety, Kern County Fire Department (KCFD) for fire protection, and Kern County Medical Emergency Service for emergency medical and rescue services. The closest KCSO substation is the Wasco City Substation, located approximately 24 miles east of the project site at 748 F Street in the City of Wasco. The nearest KCFD fire station that would serve the project is Station 26 – Lost Hills, located approximately 4.7 miles southeast of the project site at 14670 Lost Hills Road in the community of Lost Hills. The nearest hospital is the Adventist Health Delano Regional Medical Center Hospital located approximately 30 miles northeast of the project site in the City of Delano. The closest school to the project site is the combined Lost Hills Elementary School and A.M. Thomas Middle School, approximately 4.3 miles to the southeast.

1.5 Land Use and Zoning

The existing land use, General Plan Land Use Designations, and Zoning Classifications for the project site and surrounding lands are identified in **Table 1-2, Existing Land Uses, Land Use Designations, and Zoning.**

	Existing Land Use	Existing General Plan Land Use Designation	Existing Zoning Classification
Site A	Developed with Lost Hills Environmental Landfill Facility	<ul style="list-style-type: none"> 3.4 (Solid Waste Disposal Facility) 	A (Exclusive Agriculture)
Site B	H.M. Holloway Equipment Yard	<ul style="list-style-type: none"> 3.4.1 (Solid Waste Disposal Facility Buffer) 	A (Exclusive Agriculture)
North	H.M. Holloway Gypsum Mine	<ul style="list-style-type: none"> 3.4.1 (Solid Waste Disposal Facility Buffer) 8.4/2.10 (Mineral and Petroleum (5-acre min)/ Nearby Solid Waste Disposal Facility) 	A (Exclusive Agriculture)
South	Undeveloped; Inactive Kern County Landfill	<ul style="list-style-type: none"> 8.3 (Extensive Agriculture, 20-acre min) 8.3/2.10 (Extensive Ag, 20-acre min)/ Nearby Solid Waste Disposal Facility) 3.4 (Solid Waste Disposal Facility) 	A (Exclusive Agriculture)
East	Lost Hills Oilfield and Undeveloped Federal Land	<ul style="list-style-type: none"> 8.4/2.10 (Mineral and Petroleum (5-acre min)/ Nearby Solid Waste Disposal Facility) 1.1 (State and Federal Land) 	A (Exclusive Agriculture)
West	Undeveloped Land	<ul style="list-style-type: none"> 8.3/2.10 (Extensive Ag, 20-acre min)/ Nearby Solid Waste Disposal Facility) 3.4.1/2.10 (Solid Waste Disposal Facility Buffer/ Nearby Solid Waste Disposal Facility) 3.4 (Solid Waste Disposal Facility) 	A (Exclusive Agriculture)

1.5.1 Project Objectives

State CEQA *Guidelines* Section 15124(b) requires a statement of project objectives. The project proponent has defined the following objectives for the project:

1. Provide regional composting and bioenergy capacity to meet the organic waste diversion requirements enacted by recent California legislation: Assembly Bill [AB] 341, which directs the California Department of Resources Recycling and Recovery (CalRecycle) to increase Statewide diversion of solid waste to 75% by 2020; AB 1826, which requires businesses that generate a specified amount of organic waste per week to arrange for appropriate processing (e.g., composting) for that waste to further reduce landfilling of such organic materials; Senate Bill [SB] 1383, approved November 3, 2020 and set to go into effect January 1, 2022, establishes targets to achieve 50% reduction in the level of Statewide disposal of organic waste from the 2014 level by 2020 and a 75% reduction by 2025; etc.;
2. Allow for the installation of a composting facility using a variety of compostable organic streams with a forced aeration system to increase the efficiency of the composting process;
3. Allow for the installation of a bioenergy facility using a variety of wood, agricultural residues, and other organic streams to produce biomass based renewable energy;
4. Provide a service area, within approximately 150 miles of the project site, to improve quality and quantity of finished composting products for use by agriculture and landscaping operators;
5. To divert organic material from landfills and produce high-quality compost for the agricultural community and other customers while also reducing GHG emissions by keeping organics out of landfills in accordance with SB 1383;
6. Increase diversion of organic materials from landfills by providing an approved expanded feedstock list that includes a variety of wood, agricultural residues, and other organic streams to produce biomass-based compost and renewable energy;
7. Provide economic benefits to Kern County through employment of local residents and through the expansion of operational activities and construction of new processing equipment, which has the potential to create new job opportunities;
8. Continue to comply with San Joaquin Valley Air Pollution Control District (SJVAPCD) rules and regulations, and changes to those regulations in the future;
9. Enhance business owners' ability to comply with AB 1826, which requires that as of April 1, 2016, businesses that generate a specified amount of organic waste per week must arrange for recycling services for that organic waste in a specified manner (such as composting) to substantially reduce landfill disposal of food wastes; and
10. Continue to accept waste materials by utilizing exhausted mining space without having to open a new landfill pit.

1.5.2 Project Characteristics

eASP Composting Facility

The project proponent has requested a CUP for the construction and operation of an eASP composting facility on approximately 136.2 acres of the existing 331-acre landfill. An eASP composting system utilizes air forced through abutting rows of feedstock during the active composting phase. Adding an aeration system only changes the active composting phase. The shape would depend on the selected technology, but typically the high efficiency of aeration systems allows for larger active composting piles. As proposed, the composting piles would have a maximum height and slope to provide for the best aeration depending on the design of the final system selected. Active composting is proposed to take place over 28 days. The material would be moisture conditioned and kept at the appropriate temperatures for pathogen reduction. During the composting process, a temperature probe would be used to take measurements daily to ensure minimum temperature standards are maintained per California Code of Regulations [CCR] Title 14, Section 17868.3. In order to meet these requirements, a temperature of 131°F must be maintained for a period of at least 3 days.

At full buildout, the composting process would take place on 240 composting sites in the facility. Each composting pad would be equipped with a pair of 1.5-horsepower blower motors powered by a small array of solar cells with a backup battery supply. The blowers would be connected to a manifold that would lead to three 4-inch perforated pipes that would run down the center of the compost pile. These pipes would be covered with approximately 1 foot of woody biomass material. The goal is to create an aeration zone beneath the active compost pile that allows for uniform airflow up through the active compost material.

All compostable materials would be chipped and ground off-site, and then trucked to the site and off-loaded in a mixing area adjacent to the composting sites. It is expected that a 50/50 mixture by volume of woody biomass to organic feedstock would be mixed with a Scarab-style windrow turner. The mixture would then be moved to the composting row via a front-end loader. On top of the aeration zone, the 50/50 mixture would be placed into cells 70 feet long and 22.5 feet wide with a height between 5 to 9 feet, containing approximately 318 cubic yards of material. It is assumed that the organic feedstock and wood waste would have sufficient moisture to begin the composting process, and additional moisture would not need to be added during the mixing process. After the pile has been mixed and formed, the pile would be covered with a 1-foot-deep layer of cured compost, which would act as a biofilter. The layer would be put in place by the front-end loader that formed the pile, assisted by an additional loader with a rake attachment to spread the cured compost over the top of the pile. This biofilter layer would serve to reduce the volatile organic compound (VOC) emissions from the compost pile. After the pile has been covered, a sprinkler system would be placed along the top of the pile to maintain the moisture in the top layer.

Instead of turning, as is used in traditional windrow composting, proper oxygen would be provided by the solar-powered, forced aeration system. The piles would be aerated by the blower motors for 2 minutes out of every 20 minutes and the sprinklers would run approximately every 4 hours to maintain proper moisture content. After the initial 28 days of

composting, the piles would then be scooped up with a front-end loader and flipped into a new pile in the designated compost curing area to cure. To reduce the chances of contamination of the composted pile, a separate front-end loader designated to move only cured compost would be used for this operation. The pile would then be left to cure for an additional 28 days. The curing process helps bring compost to full maturity. Each pile would then be tested for pathogens prior to being moved to the finished compost stockpile after curing is complete. The material would then be screened on a trommel screen for material size sorting and used as cover for new eASP rows or shipped off-site for bulk sale.

Additional Waste Streams for Composting

The project proponent is requesting to accept a maximum of 640,000 TPY of composting feedstock comprised of the following: green waste, herbivore manure, food material, wood waste, digestate, and Class A and B biosolids, as listed in **Table 1-3, Proposed Compost Feedstock**. The project proponent proposes a blanket tonnage limit of 1,753 tons per day (TPD) for all approved composting feedstocks. This would allow for operational flexibility to combine various feedstock types and quantities to create the highest quality product, without the constraint of sub-limits for specific types of compostable feedstock materials. In addition, specific tonnage limits could impede on goals to divert organic materials from the landfill.

Table 1-3 Proposed Compost Feedstock

Organic Feedstock ¹		Wood Waste ²
<ul style="list-style-type: none"> • Class A and B Biosolids • Excess green matter • Pistachio and almond hulls • Grass, branches, and leaves • Other plant matter • Anaerobic digestate • Winery pulp 	<ul style="list-style-type: none"> • Cannabis/marijuana/hemp discards • Fats, Oils, and Greases (FOG) • Food • Paper and cardboard • Poultry manure and processing material • Cattle/livestock manure • Crop residue 	<ul style="list-style-type: none"> • Woody biomass • Dimensional lumber

¹ Feedstock: The raw material used for chemical or biological processes. For example, feedstock used for making compost could include grass clippings, leaves, food scraps, plant trimmings, straw, and animal bedding.

² Wood waste: Solid waste consisting of wood pieces or particles that are generated from the manufacturing or production of wood products, harvesting, processing, or storage of raw wood materials, or construction and demolition activities.

Bioenergy Facility

The bioenergy project component includes the construction and operation of a renewable power plant at Site B, which would primarily utilize woody agricultural waste as a feedstock to produce 3 MW (net) of electrical power for export to the grid via the Pacific Gas and Electric Company (PG&E) under the Bioenergy Market Adjusting Tariff (BioMAT) Program (Category 2 – Agricultural Feedstocks). The proposed bioenergy facility would be located on Site B, which is comprised of a 6-acre parcel of land within the Lost Hills Environmental Industrial Landfill. The bioenergy facility would include a chain reclaimer, receiving and feed conveyors, storage bins, three gasifiers, a raw water tank, a fire water pump package, a water cooler, tank, and pumps; a combustion air blower; thermal oxidizer; heat recovery system; aqueous ammonia feed system; sorbent blower; emission control filter; waste screw conveyor;

an induced draft (I.D.) fan; stack; array; oil cooler; substation; high-voltage switchyard; emergency generator; building operation, water systems, utility building; a control room and motor control center (MCC); and additional associated infrastructure and equipment as listed below and shown on **Figure 1-7** through **Figure 1-13**, *Bioenergy Facility Site Layout*:

- Instrument and plant air;
- Firewater and fire protection system;
- Water tank and plant water system;
- Potable water system and tank;
- Safety showers;
- Nitrogen storage area;
- Natural gas metering and supply;
- Storm water drainage;
- Process area drains and sump(s);
- Wastewater collection (in-mobile tanks) and reuse area; and
- Fuel and chemical unloading and storage areas;
- Generational Tie-Line.

Feedstocks would include up to 165 TPD of orchard and vineyard prunings, cannabis and hemp/marijuana residue, woody arbor waste and chipped branches, stumps, and whole trees sourced from agricultural operations and diverted from green waste processing facilities. Some almond and pistachio nut shells/hulls and digestates could also be included in the feedstock mix. Feedstocks would not contain paints, treated lumber/timber, or toxic materials. As the BioMAT Program requires that at least 80% of the sourced feedstock is sourced from agricultural operations, it is possible that up to 20% of the feedstock could be sourced from non-agricultural sources, including urban wood, forest biomass, urban prunings, and biosolids. Orchard removal trees are pushed over and allowed to dry in the field for approximately 4 weeks (to less than 20% moisture). After drying, the trees are ground in the field to a 3-inch depth minus specifications and the chips are loaded into tractor trailers for transport to the facility. Feedstocks are expected to be sourced in the San Joaquin Valley, within a 150-mile radius of the plant.

1.6 Environmental Impacts

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

The contents of this draft EIR were established based on a Notice of Preparation/Initial Study (NOP/IS) prepared in accordance with the State CEQA *Guidelines*, as well as public and

agency input that was received during the scoping process. The comments on the NOP/IS are included in Appendix A, *Notice of Preparation/Initial Study*, of this document. Specific issues found to have no impact or less-than-significant impacts during preparation of the NOP/IS do not need to be addressed further in this EIR. Based on the findings of the NOP/IS and the results of scoping, a determination was made that this EIR must contain a comprehensive analysis of all environmental issues identified in State CEQA *Guidelines* Appendix G, except agriculture and forest resources and recreation.

1.6.1 Impacts Not Further Considered in this EIR

As discussed in the NOP/IS (see Appendix A), the project was determined to have no potential for significant impacts to occur with regard to the following resource areas, which are therefore not analyzed further in this EIR:

- Agriculture and Forest Resources
- Recreation

1.6.2 Impacts of the Proposed Project

Sections 4.1 through 4.18 in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, provide a detailed discussion of the environmental setting, impacts associated with the project, and mitigation measures designed to reduce significant impacts to less-than-significant levels, when feasible. The impacts, mitigation measures, and residual impacts for the project are summarized in **Table 1-8, Summary of Impacts, Mitigation Measures, and Level of Significance after Mitigation**, at the end of this chapter, and are discussed further below.

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

- Aesthetics
- 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
- Population and Housing
- Public Services
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

Less than Significant Impacts

Potential environmental effects of the project and mitigation measures are discussed in detail in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this EIR. Based on the analysis therein, the following impacts were determined to be less than significant without mitigation and no mitigation is required to mitigate a significant impact. (Note that, although not required by CEQA, in some instances the Lead Agency has identified mitigation measures for less-than-significant impacts.)

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

Impact	Mitigation Measures
Aesthetics (Project and Cumulative)	MM 4.1-1 (COM, BEF, LDF)
Biological Resources (Project)	MM 4.1-1 (COM, BEF, LDF), MM 4.3-1 (COM, BEF), MM 4.3-2 (COM, BEF), MM 4.3-3 (COM, BEF), MM 4.3-4 (COM), MM 4.3-5 (COM), MM 4.3-6 (COM), MM 4.3-7 (COM, BEF), MM 4.3-8 (COM), MM 4.3-9 (COM), MM 4.3-10 (COM), MM 4.3-11 (COM), MM 4.3-12 (COM), and MM 4.3-13 (COM)
Cultural Resources (Project and Cumulative)	MM 4.4-1 (BEF), MM 4.4-2 (BEF), MM 4.4-3 (BEF), and MM 4.4-4 (COM, BEF)
Energy (Project and Cumulative)	No mitigation would be required.
Geology and Soils (Project and Cumulative)	MM 4.2-4 (COM, BEF), MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), MM 4.6-9 (BEF), MM 4.6-10 (BEF), MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF)
Greenhouse Gas Emissions (Project and Cumulative)	MM 4.2-1 (COM, BEF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), and MM 4.2-7 (LDF)
Hazards and Hazardous Materials (Project and Cumulative)	MM 4.8-1 (COM, BEF), MM 4.8-2 (COM, BEF), MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), MM 4.8-6 (COM, BEF, LDF), MM 4.8-7 (COM, BEF, LDF), MM 4.8-8 (COM, BEF, LDF), MM 4.15-3 (COM, BEF), and MM 4.17-3 (COM, BEF)
Hydrology and Water Quality (Project and Cumulative)	MM 4.6-1 (COM, BEF), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM,

Table 1-4 Summary of Project Impacts that are Less than Significant or Less than Significant with Mitigation

Impact	Mitigation Measures
	BEF), MM 4.6-8 (COM, BEF), and MM 4.8-3 (COM, BEF)
Land Use and Planning (Project and Cumulative)	MM 4.1-1 (COM, BEF, LDF), MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM), MM 4.3-1 (COM, BEF) through MM 4.3-13 (COM), MM 4.4-1 (BEF), MM 4.4-2 (BEF), MM 4.4-3 (BEF), MM 4.4-4 (COM, BEF), MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), MM 4.6-9 (BEF), MM 4.6-10 (BEF), MM 4.6-11 (BEF), MM 4.6-12 (COM, BEF), MM 4.8-1 (COM, BEF), MM 4.8-2 (COM, BEF), MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), MM 4.8-6 (COM, BEF, LDF), MM 4.8-7 (COM, BEF, LDF), MM 4.8-8 (COM, BEF, LDF), MM 4.10-1 (COM), MM 4.10-2 (BEF), MM 4.12-1 (COM, BEF), MM 4.14-1 (COM, BEF), MM 4.15-1 (COM), MM 4.15-2 (COM), MM 4.15-3 (COM, BEF), MM 4.15-4 (COM, BEF), MM 4.17-1 (BEF), MM 4.17-2 (COM), MM 4.17-3 (COM, BEF), MM 4.17-4 (COM, LDF), and MM 4.17-5 (COM)
Mineral Resources (Project and Cumulative)	No mitigation would be required.
Noise (Project and Cumulative)	MM 4.12-1 (COM, BEF)
Population and Housing (Project and Cumulative)	No mitigation would be required.
Public Services (Project and Cumulative)	MM 4.8-1 (COM, BEF), MM 4.8-2 (COM, BEF), MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), MM 4.8-6 (COM, BEF, LDF), and MM 4.14-1 (COM, BEF)
Transportation and Traffic (Project and Cumulative)	MM 4.15-1 (COM), MM 4.15-2 (COM), MM 4.15-3 (COM, BEF), and MM 4.15-4 (COM, BEF)
Tribal Cultural Resources (Project and Cumulative)	MM 4.4-1 (BEF), MM 4.4-2 (BEF), MM 4.4-3 (BEF), and MM 4.4-4 (COM, BEF)
Utilities and Service Systems (Project and Cumulative)	MM 4.6-7 (COM, BEF), MM 4.17-1 (BEF), MM 4.17-2 (COM), MM 4.17-3 (COM, BEF), and MM 4.17-4 (COM)
Wildfire (Project and Cumulative)	MM 4.6-7 (COM, BEF), MM 4.8-5 (COM, BEF), and MM 4.8-6 (COM, BEF, LDF)

1.6.3 Significant Cumulative Impacts

According to State CEQA *Guidelines* Section 15355, the term cumulative impacts “...refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” Individual effects that may contribute to a cumulative impact may be from a single project or a number of separate projects. Individually, the impacts of a project may be relatively minor, but when considered along with impacts of other closely related or nearby projects, including newly proposed projects, the effects could be cumulatively considerable. This EIR has considered the potential cumulative effects of the proposed project, and air quality and biological resources impacts have been found to be cumulatively considerable. Significant cumulative impacts are discussed in the applicable section of Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this EIR.

As shown in **Table 1-5, Summary of Significant and Unavoidable Impacts of the Project**, impacts in the following impacts would be significant and unavoidable, even with the incorporation of feasible mitigation measures that attempt to reduce impacts to the extent feasible.

Table 1-5 Summary of Significant and Unavoidable Impacts of the Project

Project Impacts	Cumulative Impacts
Air Quality	
<p>Due to the open nature of the project site, blowing dust could occur and result in the dispersal of criteria air pollutants, such as particulate matter less than 2.5 microns in diameter (PM_{2.5}), and contribute to the transmission of respiratory diseases like Coronavirus Disease 2019 (COVID-19). Even with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM), the uncertainty of the project’s regional and localized health impacts associated with criteria air pollutants, such as PM_{2.5}, and indirect linkages of criteria pollutants and COVID-19 on vulnerable populations would result in significant and unavoidable project-level impacts.</p>	<p>The project would have cumulatively significant and unavoidable air quality impacts related to consistency with existing air quality plans due to the considerable net increase of criteria pollutants after implementation of mitigation measures. Although implementation of project-specific mitigation measures would ensure the project would not result in significant temporary levels of nitrogen oxides (NO_x) during construction, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health impacts mentioned. As such, cumulative impacts for criteria pollutants would be considered significant and unavoidable.</p>
Biological Resources	
<p>There would be no significant and unavoidable project impacts.</p>	<p>As development increases within Kern County, impacts to biological resources within the region are increasing on a cumulative level. When considered with the number of present and reasonably foreseeable future development projects in the Southern San Joaquin Valley, the project would result in a significant and unavoidable cumulative loss of foraging and nesting habitat for special-status species, even with implementation of project-specific mitigation measures. The loss of foraging and nesting habitat for special-status species that may utilize habitat on the project site would result in a significant and unavoidable cumulative impact.</p>

1.6.4 Growth Inducement

As described in detail in Chapter 3, *Project Description*, the project includes construction and operation of a 640,000 TPY eASP composting operation, modification to the waste streams allowed for disposal at the landfill facility, modification to the hours of operation, and construction and operation of a 3 MW (net) bioenergy facility. The proposed facilities would operate 24 hours per day, 365 days per year. Currently, the Holloway Management Group, LLC employs 70 full-time employees combined for the existing gypsum mining facility and landfill facility. The project would provide new employment consistent with the adopted *Kern County General Plan* goals, plans, and policies. It is anticipated that approximately 90 temporary workers would be needed to complete construction of the project, and approximately 20 new full-time employees would be needed to operate the new composting and bioenergy facilities. It is expected that the construction workforce would commute to the site from local communities and the number of workers expected to relocate to the surrounding area is not expected to be substantial. Thus, the project would have minimal, if any, growth-inducing impacts associated directly or indirectly with population increase in the area.

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

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

1.6.5 Irreversible Impacts

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

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

1.7 Alternatives to the Proposed Project

State 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 and unavoidable cumulative impacts related to air quality, biological resources, and wildfire, and in consideration of the objectives of the proposed project, the following alternatives were considered as summarized below and discussed in detail in Chapter 6, *Alternatives*.

1.7.1 Alternatives Eliminated from Further Consideration

State CEQA *Guidelines* Section 15126.6(c) requires that an EIR identifies alternatives that were considered and rejected as infeasible and briefly explains the reasons for rejection. Among the factors that may be used to eliminate alternatives from detailed consideration in any EIR are: (1) failure to meet most of the basic project objectives; (2) infeasibility; and (3) inability to avoid significant environmental impacts. The following alternatives were initially considered but were eliminated from further consideration in this EIR because they do not meet project objectives and/or were infeasible.

Alternative Locations

State CEQA *Guidelines* Section 15126.6(f)(2)(A) states that “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 alternative location may not include the appropriate land use and zoning designations or the Solid Waste Disposal Facility Buffer, which prohibits other uses within 1,320 feet of a permitted disposal area.

Successful development of the project at an alternative location would depend on a number of factors, including existing site conditions, proximity to sensitive receptors, and availability of water and connection to required utilities. Site-specific studies would be required to evaluate a new site and its adequacy to support the proposed project. Issues to be addressed for a new site are dominated by availability and suitability. Extensive overall feasibility studies would need to be prepared to evaluate the following environmental and logistical concerns:

- water supply availability;
- distance to markets and potential increases in haul truck trip distances;
- available truck routes, road design, and existing and predicted future traffic volumes and levels of service;
- proximity to a State highway;
- existing and future surrounding land uses;
- proximity to sensitive receptors;
- effects on surrounding land uses, including aesthetics, air pollutants, light, and noise;
- potential impacts to biological resources, including special-status species and their habitat;
- potential presence of and impacts to significant cultural and paleontological resources; and
- options and costs for composting and bioenergy operations.

No specific location with attributes necessary to accomplish the project objectives is known in enough detail to be identified as a specific alternative site. Because of the multiple and undetermined site conditions that could exist at an alternative location, Kern County, as the Lead Agency, does not possess sufficient information to determine whether potential sites at alternative locations are available to feasibly meet the project objectives.

For the reasons discussed above, Kern County has eliminated alternative locations from further consideration.

Reduced Operations

A reduced operations alternative would include all the project components of the proposed project except for the proposed extension of hours. Under this alternative the existing and proposed facilities would operate under the existing permitted hours of operation associated with the current Conditional Use Permit (CUP) #9, Map 28. Therefore, the facilities would operate from 6:00 a.m. to 4:00 p.m., 7 days per week, instead of 24 hours per day, 365 days per year. Ultimately, it was determined that it would not be feasible for the proposed facilities to

operate from 6:00 a.m. to 4:00 p.m., 7 days per week, instead of 24 hours per day, 365 days per year, due to the need for ongoing and nighttime operations. The proposed composting and bioenergy facilities would require continual operation and 24-hour monitoring and maintenance operations in order to ensure the processes are properly maintained. Therefore, because this alternative was determined to be infeasible to implement, it has been eliminated from further consideration.

1.7.2 Alternatives Analyzed in this EIR

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, three alternatives, including the No Project Alternative as required by CEQA, are considered in Chapter 6, *Alternatives*. **Table 1-6, Summary of Development Alternatives**, provides a summary of the relative impacts and feasibility of each alternative. A complete discussion of each alternative is also provided below. The Environmentally Superior Alternative, as required by CEQA, is described in Section 1.7.3, *Environmentally Superior Alternative*.

Alternative A: No-Project Alternative

Implementation of the No-Project Alternative (Alternative A) would mean the existing landfill would continue to operate as currently permitted and the composting and bioenergy facilities would not be developed. Under Alternative A, none of the project objectives discussed above would be met.

Alternative B: Reduced Footprint Alternative

The Reduced Footprint Alternative (Alternative B) would include all the components of the proposed project, with the exception that the composting facility would only include Phases 1 and 3 and would no longer include the proposed Phase 2 area. This alternative would reduce the size of the proposed composting area footprint by 21.2 acres (approximately 15.6%). Under Alternative B, the proposed modifications to the allowable waste stream materials and hours of operation for the landfill facility would still occur. Alternative B would still allow for construction and operation of the proposed bioenergy facility and would still create a composting facility to divert organic material from landfills and produce high-quality compost for the agricultural community and other customers to meet the organic waste diversion requirements enacted by recent California legislation.

The reduced footprint would reduce the extent of ground disturbance, use of construction equipment, and water required to construct and operate the composting facility. Additionally, during operation, the reduced footprint is expected to require fewer hauling trips, require reduced operation of construction equipment, and generate fewer emissions. Although the

reduced footprint would still create a composting facility, it would reduce production of compost by 45,322 TPY.

The impacts from implementing Alternative B would be similar to the proposed project but of a lesser intensity (based on the reduced acreage for construction and operation), specifically related to air quality, biological resources, GHG emissions, and transportation. Alternative B further incorporates mitigation measures recommended in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*.

Alternative C: No Bioenergy Facility Alternative

The No Bioenergy Facility Alternative (Alternative C) would include all the project components of the proposed project except for the proposed bioenergy facility. Under Alternative C, the proposed modifications to the allowable waste stream materials and hours of operation for the landfill facility and construction and operation of the proposed eASP composting facility would occur; however, the bioenergy would not be developed; CUP #1, Map 28 would not be modified; a new CUP would not be required; and no physical changes to Site B would occur.

The reduced footprint would reduce the extent of ground disturbance, use of construction equipment, and water required to construct the bioenergy facility. Additionally, during operation, the reduced footprint is expected to require fewer hauling trips, require reduced operation of construction equipment, require less water, and generate fewer emissions.

The impacts from implementing Alternative C would be similar to the proposed project but of a lesser intensity (based on the reduced acreage for operations), specifically related to air quality, biological resources, GHG emissions, and transportation. Alternative C further incorporates mitigation measures recommended in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*.

Table 1-6 Summary of Development Alternatives

Description	Basis for Selection and Summary of Analysis
<i>Proposed Project</i>	
<p>Proposed modifications to the list of allowable waste stream materials and hours of operation for the landfill facility and construction and operation of a new 640,000 TPY eASP composting facility and a new 3 MW bioenergy facility. Implementation of the project would require modification to the existing landfill CUP #9, Map 28 to include modifications to current waste streams, hours of operation, and operation of an eASP composting facility; modification to existing mine site CUP #1, Map 28 to remove the proposed bioenergy project site (Site B); and issuance of new CUP #13, Map 28 for the establishment of the proposed bioenergy facility project site.</p>	<p>N/A</p>
<i>Alternative A: No Project Alternative</i>	
<p>No development would occur on the project sites, no modifications to existing CUPs or new CUPs would be required, the existing landfill would continue to operate as currently permitted, and the project sites would remain unchanged.</p>	<ul style="list-style-type: none"> • Required by CEQA • Avoids need for modified or new CUP • Avoids all significant and unavoidable impacts • Less-than-significant impacts in all remaining environmental issue areas
<i>Alternative B: Reduced Footprint Alternative</i>	
<p>The Reduced Footprint Alternative would include all components of the proposed project, with the exception that the composting facility would only include Phases 1 and 3 and would no longer include the proposed Phase 2 area. This alternative would reduce the size of the proposed composting area footprint by 21.2 acres (approximately 15.6%). Under Alternative B, the proposed modifications to the allowable waste stream materials and hours of operation for the landfill facility would still occur. Alternative B would still allow for construction and operation of the proposed bioenergy facility and would still create a composting facility to divert organic material from landfills and produce high-quality compost for the agricultural community and other customers to meet the organic waste diversion requirements enacted by recent California legislation.</p>	<ul style="list-style-type: none"> • Reduced impacts related to air quality, GHGs, biological resources, transportation and traffic, and utilities and service systems due to the reduced extent of ground disturbance, use of construction equipment, and water required to construct and operate the composting facility. • Similar impacts in all remaining environmental issue areas.
<i>Alternative C: No Bioenergy Facility Alternative</i>	
<p>The No Bioenergy Facility Alternative would include all the project components of the proposed project except for the proposed bioenergy facility. Under Alternative C, the proposed modifications to the allowable waste stream materials and hours of operation for the landfill facility and construction and operation of the proposed eASP composting facility would occur; however, the bioenergy would not be developed; CUP #1, Map 28 would not be modified; a new CUP would not be required; and no physical changes to Site B would occur.</p>	<ul style="list-style-type: none"> • Would not require modification to existing mine site CUP #1, Map 28 to remove the proposed bioenergy project site or issuance of new CUP #13, Map 28 for the establishment of the proposed bioenergy project site. • Greater overall impacts to GHG emissions • Less-than-significant impacts in all remaining environmental issue areas

Table 1-7, *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 Table 1-6, 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),” “less than significant with mitigation (LTSM),” or “significant and unavoidable (SU)” in the parentheses refer to the significance conclusion of the specific alternative.

Resource Area	Proposed Project	Alternative A (No Project)	Alternative B (Reduced Footprint)	Alternative C (No Bioenergy Facility)
Aesthetics	LTS	Less (NI)	Less (LTS)	Less (LTS)
Air Quality	SU (project and cumulative)	Less (NI)	Less (SU [project and cumulative])	Less (SU [project and cumulative])
Biological Resources	LTSM (project); SU (cumulative only)	Less (NI)	Less (LTSM [project]; SU [cumulative only])	Less (LTSM [project]; SU [cumulative only])
Cultural Resources	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Energy	LTS	Less (NI)	Less (LTS)	Less (LTS)
Geology and Soils	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Greenhouse Gas Emissions	LTSM	Less (NI)	Less (LTS)	Less (LTS)
Hazards and Hazardous Materials	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Hydrology and Water Quality	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Land Use and Planning	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Mineral Resources	LTS	Less (NI)	Less (LTS)	Less (LTS)
Noise	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Population and Housing	LTSM	Less (NI)	Similar (LTS)	Similar (LTS)
Public Services	LTSM	Less (NI)	Similar (LTSM)	Similar (LTSM)
Transportation and Traffic	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Tribal Cultural Resources	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Utilities and Service Systems	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Wildfire	LTSM	Less (NI)	Less (LTSM [project]); Similar (LTSM [cumulative])	Less (LTSM [project]); Similar (LTSM [cumulative])

1.7.3 Environmentally Superior Alternative

An EIR must identify the Environmentally Superior Alternative to the proposed project. Alternative A, the No-Project Alternative, is environmentally superior to the proposed project and would not result in the physical environmental impacts identified for the proposed project. However, the No-Project Alternative would not meet any of the objectives of the proposed project. Under State CEQA *Guidelines* Section 15126.6(e)(2), if the Environmentally Superior Alternative is the No-Project Alternative, then an Environmentally Superior Alternative must be identified among the other alternatives.

Because the No Project Alternative cannot be the Environmentally Superior Alternative under CEQA, the Environmentally Superior Alternative is considered to be the Reduced Footprint Alternative (Alternative B). This alternative would reduce the severity of impacts for all issue areas while continuing to meet all project objectives. The Reduced Footprint Alternative would reduce the emissions of criteria air pollutants and the overall extent of habitat loss, although project-level and cumulative impacts related to air quality and cumulative impacts related to biological resources would remain significant and unavoidable. Although this alternative would generally meet all of the project objectives identified in Section 6.2, *Project Objectives*, and would result in reduced impacts compared to the proposed project, it is also important to note that it would result in a reduced rate of diversion of compostable materials, reduced production of compost, and reduced offset of GHGs compared to the proposed project. Nonetheless, because this alternative reduces impacts while also meeting all of the project objectives, compared to the No Bioenergy Facility Alternative, which would reduce potential impacts to a similar degree without meeting all project objectives, the Reduced Footprint Alternative is considered the Environmentally Superior Alternative.

1.8 Areas of Controversy

Written agency and public comments received during the public review period for the NOP/IS are included in Appendix A. Although not controversial, key issues were identified during scoping as necessitating further description or evaluation. Those issues are discussed as they relate to the various environmental topics in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*:

- Impacts related to air quality;
- Impacts related to traffic; and
- Impacts related to State of California diversion requirements.

1.9 Issues to Be Resolved

State CEQA *Guidelines* Section 15123(b)(3) requires an EIR to discuss all project-related environmental issues as well as the choice among alternatives and all applicable mitigation measures. The major issues to be resolved by the lead agency include the following:

- whether the EIR adequately describes the environmental impacts of the project;
- selection of a preferred choice among alternatives;
- whether the recommended mitigation measures should be adopted or modified; and
- whether additional mitigation measures need to be developed for the project.

1.10 Summary of Environmental Impacts and Mitigation Measures

State CEQA *Guidelines* Section 15123 requires that an EIR contain a brief summary of the proposed actions and its consequences. **Table 1-8, *Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation***, is a summary of the environmental impacts of the project, mitigation measures, and the impact significance both before and after mitigation. Each impact is analyzed in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this EIR.

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
Aesthetics			
Impact 4.1-1: The project would have a substantial effect on a scenic vista.	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
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 (COM, BEF, LDF)	No mitigation would be required.	No impact (COM, BEF, LDF)
Impact 4.1-3: The project would substantially degrade the existing visual character or quality of public views of the site and its surroundings.	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
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 (COM, BEF, LDF)	MM 4.1-1: (COM, BEF, LDF) Prior to commencement of project operations of the composting, bioenergy, and landfill facilities, the project proponent shall demonstrate to Kern County Planning and Natural Resources Staff that the project complies with the applicable provisions of the Dark Skies Ordinance, and shall be designed to provide the minimum illumination needed to achieve safety and security objectives. All lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Lenses and bulbs shall not be exposed or extend below the shields.	Less than significant (COM, BEF, LDF)
Impact 4.1-5: The project would contribute to cumulative aesthetic impacts.	Potentially significant (COM, BEF, LDF)	Implement Mitigation Measure MM 4.1-1 (COM, BEF, LDF) .	Less than significant (COM, BEF, LDF)
Air Quality			
Impact 4.2-1: The project would conflict with or obstruct implementation of applicable air quality plans.	Potentially significant (COM, BEF, LDF)	MM 4.2-1: (COM, BEF, LDF) . The project is required to comply with applicable Federal and State air pollution control laws and regulations, and with applicable rules and regulations of the San Joaquin Valley Air Pollution Control District during construction and operations.	Less than significant (COM, BEF, LDF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>MM 4.2-2: (COM, BEF) Fugitive Dust Control Plan. Prior to issuance of a grading permit, the project proponent shall submit a Fugitive Dust Control Plan to the San Joaquin Valley Air Pollution Control District for review and approval. The Fugitive Dust Control Plan shall reduce PM₁₀ and PM_{2.5} emissions during construction. The Fugitive Dust Control Plan shall include:</p> <ol style="list-style-type: none"> a. Name(s), address(es), and phone number(s) of person(s) responsible for the preparation, submission, and implementation of the plan. b. Description and location of operation(s). c. Listing of all fugitive dust emissions sources included in the operation. d. All measures (in addition to those measures required by the San Joaquin Valley Air Pollution Control District) being undertaken during construction activities and operational activities to ensure fugitive dust being blown off-site is minimized. Measures may include, but are not limited to: <ol style="list-style-type: none"> 1. Use of water trucks as required for the expected level of winds in the area. 2. Use of dust suppressant (i.e., soil binders or mulch). 3. Construction of dust screening in appropriate locations around the project site (i.e., fence slats or mesh screening). 4. A copy of the approved Site-Specific Dust Control Plan shall be kept at the on-site construction office, and all measures included in the Site-Specific Dust Control Plan shall be included on all Grading Plans issued for the project by the Kern County Public Works Department. 	
		<p>MM 4.2-3: (COM, BEF) Fugitive Dust Control Measures. The project proponent shall ensure construction and operation of the</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>project shall be conducted in compliance with all applicable rules and regulations set forth by the San Joaquin Valley Air Pollution Control District. Dust control measures outlined below shall be implemented where they are applicable and feasible. The list shall not be considered all-inclusive and any other measures to reduce fugitive dust emissions may be required by appropriate agencies to respond to urgent issues on-site:</p>	
		<p>a. Land Preparation, Excavation, and/or Demolition. The following dust control measures shall be implemented:</p> <ol style="list-style-type: none"> 1. All soil being actively excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soil areas. Watering shall take place a minimum of three times daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust suppressant. 2. After active construction activities, soil shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil-stabilizing methods. 3. All unpaved construction and operation/maintenance site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent. 4. All clearing, grading, earth-moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour (averaged over 1 hour), or when dust plumes of 20% or greater opacity impact public roads, occupied structures, or neighboring property or as identified in a 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>plan approved by the San Joaquin Valley Air Pollution Control District.</p> <ol style="list-style-type: none"> 5. All trucks entering or leaving the site will cover all loads of soils, sands, and other loose materials, or be thoroughly wetted with a minimum freeboard height of 6 inches. 6. Areas disturbed by clearing, earth-moving, or excavation activities shall be minimized at all times. 7. Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust. 8. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered or shall be treated with appropriate dust suppressant compounds. 9. Prior to construction, wind breaks (such as chain-link fencing including a wind barrier) shall be installed where appropriate. 10. Where acceptable to the Kern County Fire Department, weed control shall be accomplished by mowing instead of disking, thereby, leaving the ground undisturbed and with a mulch covering. 11. The project operator shall use the Global Positioning System (GPS) or lasers to level posts, generally avoiding grading except when elevation changes exceed design requirements. 12. When grading is unavoidable, it is to be phased and done with the application of approved chemical dust palliatives that stabilize the earth. 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<ul style="list-style-type: none"> 13. Where ground is cleared, plant roots must be left in place where possible to stabilize the soil. 14. Disturbed areas shall be revegetated as soon as possible after disturbance if area is no longer needed for mining or landfill activities. b. Site Construction. After active clearing, grading, and earth-moving activities are completed within any portion of the site, the following dust control practices shall be implemented: <ul style="list-style-type: none"> 1. Dust suppressant should be used on the same day or day immediately following the cessation of activity for a particular area where further activity is not planned. 2. All internal unpaved road areas shall be treated with a dust suppressant or graveled to prevent excessive dust. 3. The project operator shall use dust suppression measures during road surface preparation activities, including grading and compaction. 4. Final road surfaces must be stabilized to achieve a measurable threshold friction velocity (TFV) equal to or greater than 100 centimeters per second. 5. Wind barrier fencing or screening shall be installed, when appropriate. c. Vehicular Activities. During all phases of construction, the following vehicular control measures shall be implemented: <ul style="list-style-type: none"> 1. On-site vehicle speed shall be limited to 10 miles per hour on unpaved areas within the project site. Vehicles may travel up to 25 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>miles per hour on stabilized unpaved roads (application of palliatives, gravel, etc. that reduces the erosion potential of the soil) as long as such speeds do not create visible dust emissions.</p> <ol style="list-style-type: none"> 2. Visible speed limit signs shall be posted at main ingress point(s) on site. 3. All areas with vehicle traffic, such as the main entrance roadway to the project site, shall be graveled or treated with dust palliatives so as to prevent track-out onto public roadways. 4. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard. 5. Streets adjacent to the project site shall be kept clean, and project-related accumulated silt shall be removed a minimum of once daily, or as necessary to prevent substantial off-site fugitive dust releases. The use of either dry rotary brushes (unless prior wetting) or blower devices is prohibited. 6. Access to the site shall be by means of an apron into the project site from adjoining surfaced roadways. The apron shall be surfaced or treated with dust suppressants. If site soils cling to the wheels of the vehicles, then a grizzly, wheel-washer, or other such device shall be used on the road exiting the project site, immediately prior to 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>the pavement, to remove most of the soil material from vehicle tires.</p> <p>MM 4.2-4: (COM, BEF) Phased Grading Plan. Prior to the issuance of grading or building permits, the project proponent shall provide a comprehensive Phased Grading Plan for review by the Kern County Planning and Natural Resources Department to reduce fugitive dust emissions resulting from wind erosion at the site. The Phased Grading Plan shall:</p> <ol style="list-style-type: none"> a. Identify a comprehensive grading schedule for the entire project site that demonstrates the following: <ol style="list-style-type: none"> 1. Minimal Grading. The extent of grading shall be minimized to the extent feasible to limit the removal of topsoil and creation of loose soils. Only in areas where drainage improvements, structural foundations (e.g. inverter/ transformer pads), service roads, and leveling of severe grades need to occur will grading that removes and recompacts the soil surface occur. Dust palliatives and water shall be immediately applied following any grading. 2. Dust Palliatives. Application of dust palliatives shall be applied on an as-needed basis throughout project construction to help reduce dust, especially during periods of high winds, and shall include use of: (1) an eco-safe, biodegradable, liquid copolymer shall be used to stabilize and solidify any soil; and (2) a hydro mulch mixture composed of wood fiber mulch and an Environ-Mend binder may also be applied, where real-time weather conditions dictate that additional measures are necessary. 3. Water Suppression. Water trucks shall transit across the project site and construction access roads to suppress the 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>fugitive dust from disturbed soils on roads and active working areas on a regular and as-needed basis.</p> <p>b. Identify, in addition to those measures required by the San Joaquin Valley Air Pollution Control District, all measures being undertaken during construction activities and operational activities to ensure dust being blown off-site is minimized. Measures may include, but are not limited to:</p> <ol style="list-style-type: none"> 1. Increased use of water and/or use of dust suppressant. 2. Pre-seeding and/or use of wood chips as permitted by the San Joaquin Valley Air Pollution Control District. 3. Construction of dust screening around the project site. <p>MM 4.2-5: (COM, BEF) The project proponent and/or its contractors shall implement the following measures during construction of the project:</p> <ol style="list-style-type: none"> a. All equipment shall be maintained in accordance with the manufacture’s specifications. b. Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 10 minutes. c. No individual piece of construction equipment shall operate longer than 8 consecutive hours per day. d. Electric equipment shall be used whenever possible in lieu of diesel or gasoline-powered equipment. e. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce nitrogen oxide emissions. 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<ul style="list-style-type: none"> f. On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer’s guidelines. g. Prohibit the use of heavy equipment during first- or second-stage smog alerts and suspend all construction activities during second-stage smog alerts. h. Utilize existing power sources (i.e., power poles) when available. This measure would minimize the use of higher polluting gas or diesel generators. i. Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use to the extent feasible. j. Require that trucks and vehicles in loading or unloading queues have their engines turned-off when not in use, where feasible. k. Off-road equipment engines over 50 horsepower shall be Tier 3 certified or higher (unless Tier 3 equipment, has been determined to not be available). l. Provide notification to trucks and vehicles in loading or unloading queues that their engines shall be turned-off when not in use for more than 10 minutes. 	
		<p>MM 4.2-6: (COM, BEF) The project proponent shall enter into a Developer Mitigation Contract with the San Joaquin Valley Air Pollution Control District to reduce emissions of reactive organic gases, nitrogen oxide, and particulate matter (PM₁₀ and PM_{2.5}) to ensure that all project-related construction and operational emissions within the San Joaquin Valley Air Basin are fully offset (i.e., no net increase). Emission reductions may be achieved by use of newer, low-emission equipment, implementation of on-site or off-site mitigation, and/or the funding of off-site mitigation, through participation in the San Joaquin Valley Air Pollution Control District’s off-site mitigation program.</p>	
		<p>The Developer Mitigation Contract shall be reviewed and approved by the San Joaquin Valley Air Pollution Control District</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
<p>Impact 4.2-2: The project would expose sensitive receptors to substantial pollutant concentrations.</p>	<p>Potentially significant (COM, BEF, LDF)</p>	<p>prior to issuance of construction/grading permits by Kern County. The project proponent/owner shall submit to the Kern County Planning and Natural Resources Department documentation confirming compliance with the Developer Mitigation Contract, prior to issuance of final discretionary approval (e.g., approval of the grading permit). The project proponent shall report annually through the Mitigation Monitoring and Reporting program in compliance with the Developer Mitigation Contract.</p> <p>MM 4.2-7: (LDF) The project will install an on-site flare in accordance with all applicable regulatory requirements to combust 75% of landfill gas emissions captured by the landfill gas collection system. The on-site flare will have a destruction efficiency of 99%.</p> <p>Implement Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), and MM 4.2-7 (LDF), in addition to the measures listed below.</p> <p>MM 4.2-8: (COM, BEF, LDF) Valley Fever. Prior to ground disturbance activities, the project proponent shall implement the following Valley Fever provisions:</p> <ol style="list-style-type: none"> a. Provide evidence to the Kern County Planning and Natural Resources Department that the project operator and/or construction manager has developed a “Valley Fever Training Handout,” training, and schedule of sessions for education to be provided to all construction personnel. All evidence of the training session materials, handout(s), and schedule shall be submitted to the Kern County Planning and Natural Resources Department within 24 hours of the first training session. Multiple training sessions may be conducted if different work crews will come to the site for different stages of construction; however, all construction personnel shall be provided training prior to beginning work. The evidence submitted to the Kern County Planning and Natural Resources Department 	<p>Significant and unavoidable (COM, BEF, LDF)</p>

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>regarding the “Valley Fever Training Handout” and session(s) shall include the following:</p> <ol style="list-style-type: none"> 1. A sign-in sheet (to include the printed employee names, signature, and date) for all employees who attended the training session. 2. Distribution of a written flier or brochure that includes educational information regarding the health effects of exposure to criteria pollutant emissions and Valley Fever. 3. Training on methods that may help prevent Valley Fever infection. 4. A demonstration to employees on how to use personal protective equipment (PPE), such as respiratory equipment (masks), to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of Valley Fever. Where respirators are required, the equipment shall be readily available and shall be provided to employees for use during work. Proof that the demonstration is included in the training shall be submitted to the county. This proof can be through printed training materials/agenda, digital video disc (DVD), digital media files, or photographs. <p>b. The project proponent also shall consult with the Kern County Public Health Services Department to develop a Valley Fever Dust Management Plan that addresses the potential presence of the Coccidioides spore and mitigates for the potential for Coccidioidomycosis (Valley Fever). Prior to issuance of permits, the project operator shall submit the plan to the Kern County Public Health Services Department for review and approval. The plan shall include a program to evaluate the potential for exposure to Valley Fever from</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>construction activities and to identify appropriate safety procedures that shall be implemented, as needed, to minimize personnel and public exposure to potential <i>Coccidioides</i> spores. Measures in the Valley Fever Dust Management Plan shall include the following:</p> <ol style="list-style-type: none"> 1. Provide High-Efficiency Particulate Air (HEPA) filters for heavy equipment equipped with factory-enclosed cabs capable of accepting the filters. Require contractors utilizing applicable heavy equipment to furnish proof of worker training on proper use of applicable heavy equipment cabs, such as turning on air conditioning prior to using the equipment. 2. Provide communication methods, such as two-way radios, for use in enclosed cabs. 3. Require National Institute for Occupational Safety and Health (NIOSH)-approved half-face respirators equipped with minimum N-95 protection factor for use during worker collocation with surface disturbance activities, as required per the hazard assessment process. 4. Cause employees to be medically evaluated, fit-tested, and properly trained on the use of the respirators, and implement a full respiratory protection program in accordance with the applicable California Division of Occupational Safety and Health (Cal/OSHA) Respiratory Protection Standard (8 CCR 5144). 5. Provide separate, clean eating areas with handwashing facilities. 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<ol style="list-style-type: none"> 6. Install equipment inspection stations at each construction equipment access/egress point. Examine construction vehicles and equipment for excess soil material and clean, as necessary, before equipment is moved off-site. 7. Train workers to recognize the symptoms of Valley Fever, and to promptly report suspected symptoms of work-related Valley Fever to a supervisor. 8. Work with a medical professional to develop a protocol to medically evaluate employees who develop symptoms of Valley Fever. 9. Work with a medical professional, in consultation with the Kern County Public Health Services Department, to develop an educational handout for on-site workers and surrounding residents within 3 miles of the project site, and include the following information on Valley Fever: what are the potential sources/causes, what are the common symptoms, what are the options or remedies available should someone be experiencing these symptoms, and where testing for exposure is available. Prior to construction permit issuance, this handout shall have been created by the project operator and reviewed by the project operator and reviewed by Kern County. No less than 30 days prior to any work commencing, this handout shall be mailed to all existing residences within 3 miles of the project boundaries. 10. When possible, position workers upwind or crosswind when digging a trench or performing other soil-disturbing tasks. 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
<p>Impact 4.2-3: The project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.</p>	<p>Potentially significant (COM, LDF)</p>	<p>11. Prohibit smoking at the worksite outside of designated smoking areas; designated smoking areas will be equipped with handwashing facilities.</p> <p>12. Post warnings on-site and consider limiting access to visitors, especially those without adequate training and respiratory protection.</p> <p>MM 4.2-9: (COM, BEF, LDF) Valley Fever Education Fees. Prior to the issuance of grading permits, a onetime fee shall be paid to the Kern County Public Health Services Department in the amount of \$3,200 for public awareness programs.</p> <p>MM 4.2-10: (COM, BEF, LDF) COVID-19 Health and Safety Plan. 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 Department for review and approval.</p> <p>Implement Mitigation Measure MM 4.2-7 (LDF), in addition to the measure listed below.</p> <p>MM 4.2-11: (COM) Odor Control Management Plan. Under California law (14 California Code of Regulations Chapter 3.1, Section 17863.4), as a commercial compost facility, the project proponent shall be required to prepare an Odor Complaint Management Plan. The plan shall include provisions necessary to reduce noxious odors generated from the proposed use. At a minimum, the Odor Complaint Management Plan shall include the following:</p> <ul style="list-style-type: none"> a. Name and telephone number of contact person(s) at the project site responsible for logging in and responding to odor complaints. b. Policy and procedure describing the actions to be taken when an odor complaint is received, including the training provided to the staff on how to respond. 	<p>Less than significant (COM, LDF)</p>

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<ul style="list-style-type: none"> c. Description of potential odor sources at the project site. d. Description of potential methods for reducing odors, including minimizing idling of delivery and service trucks and buses, process changes, facility modifications, and/or feasible add-on air pollution control equipment. e. Contingency measures to curtail emissions in the event of a public nuisance complaint. 	
	Less than significant (BEF)	No mitigation would be required.	Less than significant (BEF)
Impact 4.2-4: The project would result in a cumulatively considerable net increase of any criteria pollutant for which the projects' region is nonattainment under applicable federal or State ambient air quality standards.	Significant and unavoidable (COM, BEF, LDF)	Implement Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM).	Significant and unavoidable (COM, BEF, LDF)
Biological Resources			
Impact 4.3-1: 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 regional or local plans, policies, or regulations, or by the USFWS or CDFW.	Potentially significant (COM, BEF, LDF)	<p>Implement Mitigation Measure MM 4.1-1 (COM, BEF, LDF), in addition to the mitigation measures listed below.</p> <p>MM 4.3-1: (COM, BEF) Prior to the issuance of grading or building permits from Kern County for activities within the composting or bioenergy facility footprints, the project proponent/operator shall retain a qualified biologist(s) who meets the qualifications of an authorized biologist as defined by U.S. Fish and Wildlife Service to oversee compliance with protection measures for all listed and other special-status wildlife species that may be affected by the construction, operation, and decommissioning of the project. The following measures pertain to qualified biologists on-site:</p> <ul style="list-style-type: none"> a. The qualified biologist(s) shall be on the project site at the qualified biologist's discretion during all ground-disturbing activities that occur within 100 feet of any 	Less than significant (COM, BEF, LDF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>vegetated areas identified in the <i>Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project, Kern County, California</i> (McCormick Biological, Inc. 2020).</p>	
		<ul style="list-style-type: none"> b. The qualified biologist(s) shall have the right to halt activities that are in violation of the special-status species mitigation measures, as well as any regulatory permits from the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife, if applicable. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk, or at the qualified biologist’s discretion. c. The qualified biologist(s) shall maintain a copy of applicable permits and biology-related plans on the project sites. d. The qualified biologist(s) shall have in their possession a copy of all mitigation measures while work is being conducted on the project sites. e. Prior to issuance of grading or building permits, contact information for the qualified biologist(s) shall be submitted to the Kern County Planning and Natural Resources Department. f. Individuals involved in biological monitoring shall be supervised by the qualified biologist(s) and shall have the appropriate experience to accomplish biological monitoring. Biological monitors shall comply with the above measures. 	
		<p>MM 4.3-2: (COM, BEF) Prior to the issuance of grading or building permits and for the duration of construction activities, and within a minimum of 1 week of initial ground disturbance at the project sites, staging areas, and/or transmission corridors, all construction workers shall attend a Worker Environmental Awareness Training and Education Program that will be developed by a qualified biologist. The Worker Environmental</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>Awareness Training and Education Program will be developed and presented by a qualified biologist(s) or designee approved by the qualified biologist(s) and may be conducted in person or via videotape or other electronically recorded media.</p> <p>Any personnel associated with construction that did not attend the initial Worker Environmental Awareness Training and Education Program shall attend a subsequent Worker Environmental Awareness Training and Education Program. Any employee responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Worker Environmental Awareness Training and Education Program prior to starting work on the project and on an annual basis.</p> <p>On-site employees responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Worker Environmental Awareness Training and Education Program prior to operations or decommissioning. The Worker Environmental Awareness Training and Education Program will be developed and presented by a qualified biologist(s) or designee approved by the qualified biologist(s). The Worker Environmental Awareness Training and Education Program shall include the components described below:</p> <ol style="list-style-type: none"> a. Information on the life history and identification of the blunt-nosed leopard lizard, burrowing owl, raptor species, San Joaquin kit fox, and American badger, as well as other wildlife, special-status plant species, and the California Department of Fish and Wildlife-regulated drainages that may be affected during construction activities. The Worker Environmental Awareness Training and Education Program shall also discuss the legal protection status of each species, the definition of “take” under the Endangered Species Act and California Endangered Species Act, measures the project proponent/operator shall implement to protect the species, reporting requirements, specific measures for workers to avoid 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>take of special-status plant and wildlife species, and penalties for violation of the requirements outlined in the mitigation measures and agency permit requirements. The Worker Environmental Awareness Training and Education Program shall also discuss the measures outlined in Mitigation Measures MM 4.3-3 (COM, BEF) and MM 4.3-4 (COM) through MM 4.3-13 (COM).</p>	
		<p>b. An acknowledgement form signed by each worker indicating that the Worker Environmental Awareness Training and Education Program has been completed shall be kept on file on-site.</p>	
		<p>c. A copy of the training transcript and/or training video, a list of the names of all personnel who attended the Worker Environmental Awareness Training and Education Program, and signed acknowledgement forms shall be submitted to the Kern County Planning and Natural Resources Department.</p>	
		<p>d. A copy of the training transcript, training video, or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with, as necessary.</p>	
		<p>e. A sticker shall be placed on hard hats indicating that the worker has completed the Worker Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Worker Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker.</p>	
		<p>MM 4.3-3: (COM, BEF) During construction, operation, and decommissioning, the project proponent/operator and/or contractor(s) shall implement the general avoidance and protective measures described below:</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<ul style="list-style-type: none"> a. Prior to conducting vegetation clearing or grading activities associated with construction or decommissioning, a qualified biologist or biological monitor that has been approved by the qualified biologist shall perform preconstruction visual surveys of the area immediately prior to conducting these activities to ensure that no special-status animals are present. The qualified biologist or biological monitor shall monitor all initial construction and decommissioning ground-disturbing activities. A report of those activities shall be submitted to the Kern County Planning and Natural Resources Department within 30 days of completion of activities. b. Sensitive biological resources (e.g., special-status species, jurisdictional drainages, nesting birds, etc.) within proposed impact areas, including composting area, generator-tie lines, staging areas, roads and access routes, stockpiling or marshaling areas, or temporary placement of spoils shall be delineated with stakes and/or flagging prior to construction to avoid sensitive biological resources where possible. Construction-related activities outside of the planned impact areas shall be avoided. c. Access roads shall not extend beyond the planned impact area. All vehicle traffic shall be contained within the planned impact areas or in previously disturbed areas. Where new access routes are required, the route will be clearly marked (i.e., flagged and/or staked) prior to construction. d. The project proponent/operator shall minimize the areas of disturbance. Parking areas, new roads, staging, and storage site locations shall be confined to the smallest areas possible. e. During construction, spoils shall be stockpiled in disturbed areas that lack native vegetation to the maximum extent practicable. Best Management 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (see Section 4.7, <i>Geology and Soils</i>, for more details on Stormwater Pollution Prevention Plan requirements). All detected erosion shall be remedied as described in the Erosion Control Plan of the Stormwater Pollution Prevention Plan. Spoils that have been stockpiled and inactive for greater than 10 days shall be inspected by a qualified biologist for signs of special-status wildlife before moving or disturbing the spoils.</p>	
		<p>f. To prevent inadvertent entrapment of San Joaquin kit fox, American badgers, or other animals during construction, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks that are no less than 12 inches wide and secured at the top and placed a minimum of every 100 feet within the open trench. Covered and non-covered holes or trenches shall be thoroughly inspected for trapped animals by a qualified biologist or their biological monitor at the beginning and end of each day. Immediately before such holes or trenches are filled, they shall again be thoroughly inspected by trained staff approved by the retained qualified biologist for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow for their escape. If a listed species is trapped, the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife, as appropriate for the species, and Kern County Planning and Natural Resources Department shall be contacted immediately.</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<ul style="list-style-type: none"> <li>g. San Joaquin kit fox, burrowing owls, mammals, and nesting birds may use construction pipes, culverts, or similar structures for refuge or nesting. Therefore, all construction pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at the construction site for one or more overnight periods shall be covered in such a way as to exclude wildlife from entry. If this is not possible, straight pipes shall be inspected for wildlife before moving or capping. Any pipes of this size that cannot be seen through completely must be covered if left overnight. <li>h. Any such pipes left overnight without being covered shall be thoroughly inspected by a qualified biologist or the designated biological monitor for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until a qualified biologist has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by a qualified biologist holding the appropriate handling permits from the resource agencies. <li>i. No vehicle or equipment parked on the project sites shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own. <li>j. Vehicular traffic to and from the project sites shall use existing routes of travel. Cross country vehicle and equipment use outside designated impact areas shall be prohibited. <li>k. A speed limit of 15 miles per hour shall be enforced within the limits of the project. A speed limit of 10 miles per hour shall be enforced during nighttime periods. <li>l. Fueling of equipment shall take place within existing roads. No refueling within or adjacent to drainages 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>(within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired, as necessary.</p>	
		<p>m. Workers shall be prohibited from bringing pets and firearms to the project sites and from feeding wildlife.</p>	
		<p>n. Intentional killing or collection of any plant or wildlife species shall be prohibited.</p>	
		<p>o. No rodenticides shall be used on the project sites.</p>	
		<p>p. Fencing surrounding the active areas of the permit area will include small- mesh (1/4 inch diameter or smaller) exclusionary fencing installed from 6 inches below ground level to at least 24 inches above grade to discourage wildlife from accessing the work areas.</p>	
		<p>MM 4.3-4: (COM) The project proponent shall implement the following measures to avoid and/or minimize potential impacts to special-status plant species within the composting facility footprint:</p>	
		<p>a. Within no more than 1 year prior to ground disturbance within any of the vegetated areas within Site A, as identified in the <i>Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project, Kern County, California</i> (McCormick Biological, Inc. 2020), as authorized by this approval, the project proponent shall retain a qualified botanist who shall conduct and document special-status plant surveys following the <i>Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities</i> or those established by the California Native Plant Society.</p>	
		<p>b. If the surveys identify special-status plants, the following measures shall be implemented:</p> <ol style="list-style-type: none"> 1. A 50-foot buffer shall be established around any occurrences of a special-status plant 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>species, as designated by a qualified biologist, when feasible;</p> <ol style="list-style-type: none"> 2. In areas where it is not feasible to set up buffers, soil conservation will be implemented for areas known to support sensitive plant species. The soil will be stockpiled using straw wattles and a cover to prevent loss of topsoil by wind and soil erosion. The topsoil will be used for areas that will be temporarily disturbed and later restored; 3. Dust control shall be implemented in areas that occur near the rare or listed plants to avoid disturbance to the natural photosynthetic process of the plants. The pooling of water shall be avoided as well; and 4. Large equipment shall be washed at an off-site facility away from native habitat prior to entering the project location to prevent the spread of invasive plant species that may be within the equipment. <p>c. If disturbance cannot be avoided, the project proponent shall consult with the California Department of Fish and Wildlife and other regulatory agencies to identify and implement approved measures to effectively mitigate any potential impacts to less than significant, as appropriate.</p>	
		<p>MM 4.3-5: (COM) Project activities within the composting facility footprint shall attempt to avoid the vegetated portions of Site A, as identified in the <i>Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project, Kern County, California</i> (McCormick Biological, Inc. 2020), unless focused surveys for the detection of blunt-nosed leopard lizard, San Joaquin antelope squirrel, San Joaquin kit fox, giant kangaroo rat, and other special-status species identified as</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>having the potential to occur in the project site are conducted. Focused surveys shall follow current agency-accepted protocols or, if agency protocols are not available, industry-accepted methods for the detection of each of the potentially occurring special-status species. Surveys shall be timed to optimize detection of each species, follow agency protocols, and allow the project proponent to coordinate with agencies as necessary depending on species detected.</p> <p>MM 4.3-6: (COM) A preconstruction survey by the Lead Biologist or a qualified biologist approved by the Lead Biologist shall be conducted no more than 30 days and no less than 14 days prior to the commencement of any ground disturbance or site preparation within Site A, outside of the existing active landfill footprint (and in the case of the San Joaquin antelope squirrel, surveys shall be conducted between April 1 through September 30 when air temperatures are between 68 and 86 degrees Fahrenheit). If any evidence of occupation of that portion of the project site by listed or other special-status plant or animal species is observed, a buffer shall be established by a qualified biologist that results in sufficient avoidance to comply with applicable regulations. Even if sufficient avoidance can be established, the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted for further guidance and consultation on additional measures. The project proponent shall obtain any required permits from the appropriate wildlife agency. Copies of the preconstruction survey and results, as well as all permits and evidence of compliance with applicable regulations, shall be submitted to the Kern County Planning and Natural Resources Department. Additionally, any special-status species and/or natural communities detected during project surveys shall be reported to the California Natural Diversity Database.</p> <p>The following no-disturbance buffer distances shall be established prior to consultation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife or</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>commencement of any site preparation and/or construction activities:</p> <ul style="list-style-type: none"> a. American badger potential den: 50 feet; known den: 100 feet; pupping den: contact the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife; b. San Joaquin kit fox: known and potential dens shall be avoided by 100- and 50-foot no-disturbance buffers, respectively. If San Joaquin kit fox are found occupying atypical (i.e., manmade structure) den sites, a 50-foot no-disturbance buffer shall be established and maintained around the occupied den structure, in accordance with the <i>U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance</i> (2011); c. Burrowing owl burrow outside of breeding season: as recommended by the <i>Staff Report on Burrowing Owl Mitigation</i> (California Department of Fish and Game [now California Department of Fish and Wildlife] 2012); d. Burrowing owl burrow during breeding season: as recommended by the <i>Staff Report on Burrowing Owl Mitigation</i> (California Department of Fish and Game [now California Department of Fish and Wildlife] 2012); e. Other protected nesting migratory bird nests during the breeding season: as recommended by a qualified biologist; f. San Joaquin coachwhip, coast horned lizard, and other special-status wildlife species: as recommended by a qualified biologist; g. Giant kangaroo rat, short-nosed kangaroo rat, and Tulare grasshopper mouse: small mammal burrows observed during preconstruction surveys should be avoided by a 50-foot avoidance buffer; 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<ul style="list-style-type: none"> <li>h. Blunt-nosed leopard lizard: small mammal burrows observed during preconstruction surveys should be avoided by a 50-foot avoidance buffer. If blunt-nosed leopard lizard is found at any time within the project sites, consultation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife is required to discuss how to implement the project; and <li>i. San Joaquin antelope squirrel: 50 feet. "Take" of San Joaquin antelope squirrel must be avoided unless appropriate authorization is obtained from California Department of Fish and Wildlife. 	
		<p>MM 4.3-7: (COM, BEF) If construction activities occur during the nesting season (March 1 to August 31) in any of the vegetated areas within the composting facility footprint identified in the <i>Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project, Kern County, California</i> (McCormick Biological, Inc. 2020) or in Site B, a qualified biologist shall conduct a preconstruction nesting bird survey to identify any active nests present within the proposed work area and a 250-foot buffer no more than 14 days prior to the onset of project activities. If active nests are observed, they shall be avoided by an appropriate buffer distance as determined by a qualified biologist to avoid abandonment of the nest during incubation and chick rearing. The nest shall not be disturbed until the young have fledged or the nest has been abandoned as determined by the qualified biologist.</p>	
		<p>MM 4.3-8: (COM) A qualified biologist shall monitor all ground-disturbing activities that occur within 100 feet of any of the vegetated areas within the composting facility footprint identified in the <i>Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project, Kern County, California</i> (McCormick Biological, Inc. 2020). The purpose of the biological monitor is to assist with avoiding special-status species and to document compliance with these recommendations and any subsequent plans. A report of</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>biological monitoring activity will be submitted quarterly during any quarter that ground disturbance occurs to the Kern County Planning and Natural Resources Department to document compliance with these measures.</p> <p>MM 4.3-9: (COM) If new ground disturbance in the areas identified as annual grassland and/or <i>Atriplex polycarpa</i> alliance within the composting facility footprint as identified in the <i>Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project, Kern County, California</i> (McCormick Biological, Inc. 2020) cannot avoid small mammal burrows that may be occupied by blunt-nosed leopard lizard by a buffer distance of 50 feet, focused surveys following current California Department of Fish and Wildlife protocols for detection of blunt-nosed leopard lizard shall be conducted no more than 1 year prior to construction or project activities within 50 feet of any burrows or dens that could be occupied by blunt-nosed leopard lizard. The current survey protocol (California Department of Fish and Wildlife 2019) requires that a set pattern of surveys be completed over two sessions: adult (April 15 to July 15) and hatchling (August 15 to September 30).</p> <p>If blunt-nosed leopard lizard is observed at any time, at a minimum, construction and other project activities shall avoid all occupied areas by a buffer distance of 250 feet, speed limits on the project site shall be reduced to 10 miles per hour, and the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted immediately. A Blunt-Nosed Leopard Lizard Avoidance Plan shall be prepared and submitted to the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife for review and concurrence.</p> <p>MM 4.3-10: (COM) If any small mammal burrows are detected within the composting facility footprint that could be occupied by giant kangaroo rat, short-nosed kangaroo rat, or Tulare grasshopper mouse, nocturnal trapping following <i>Survey Protocol for Determining Presence of San Joaquin Kangaroo Rats</i> (U.S. Fish and Wildlife Service 2013b) shall be conducted by an appropriately authorized biologist holding an Endangered</p>	

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		<p>Species Act authorization and California Endangered Species Act Memorandum of Understanding for species that may be captured.</p> <ul style="list-style-type: none"> a. If giant kangaroo rat is detected, all burrows potentially occupied by this species shall be avoided by a buffer distance of at least 50 feet unless the appropriate Endangered Species Act and California Endangered Species Act authorizations are obtained to allow project activities that have the potential to result in “take” of giant kangaroo rat. b. If any non-listed special-status species are detected, they shall be released to an offsite adjacent area at least 50 feet from planned activities. Release shall be accomplished using modified “soft release” methods, including creation of artificial burrows using hand auger or other method to create cover for the released individuals. <p>MM 4.3-11: (COM) The following measures are based on the recently updated 2012 California Department of Fish and Game [now California Department of Fish and Wildlife] <i>Staff Report on Burrowing Owl Mitigation</i> and shall be implemented to ensure potential effects on burrowing owl resulting from project implementation will be avoided and minimized to less-than-significant levels:</p> <ul style="list-style-type: none"> a. A project Lead Biologist shall be on-site during all initial ground-disturbing activities within the approved composting facility footprint in potential burrowing owl habitat. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-disturbance surveys of the permanent and temporary impact areas, plus an ISO-meter (approximately 492-foot) buffer, to locate active breeding or wintering burrowing owl burrows no less than 14 days prior to initial ground-disturbing activities. The survey methodology will be consistent with the methods outlined in the <i>Staff Report on</i> 	

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Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation																							
		<p><i>Burrowing Owl Mitigation</i> and will consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing. As each burrow is investigated, biologists will also look for signs of American badger and San Joaquin kit fox. Copies of the survey results shall be submitted to the California Department of Fish and Wildlife and Kern County Planning and Natural Resources Department.</p>																								
		<p>b. If burrowing owls are detected within the composting facility footprint, no ground-disturbing activities shall be permitted within the distances listed below in the table titled “Burrowing Owl Burrow Buffers,” unless otherwise authorized by the California Department of Fish and Wildlife. Burrowing owls shall not be moved or excluded from burrows during the breeding season.</p>																								
		<p><small>Burrowing Owl Burrow Buffers</small></p>																								
		<table border="1"> <thead> <tr> <th rowspan="2">Location</th> <th rowspan="2">Time of Year</th> <th colspan="3">Level of Disturbance</th> </tr> <tr> <th>Low</th> <th>Medium</th> <th>High</th> </tr> </thead> <tbody> <tr> <td>Nesting sites</td> <td>April 1 – August 15</td> <td>200 meters</td> <td>500 meters</td> <td>500 meters</td> </tr> <tr> <td>Nesting sites</td> <td>August 16 – October 15</td> <td>200 meters</td> <td>200 meters</td> <td>500 meters</td> </tr> <tr> <td>Any occupied burrow</td> <td>October 16 – March 31</td> <td>50 meters</td> <td>100 meters</td> <td>500 meters</td> </tr> </tbody> </table>	Location	Time of Year	Level of Disturbance			Low	Medium	High	Nesting sites	April 1 – August 15	200 meters	500 meters	500 meters	Nesting sites	August 16 – October 15	200 meters	200 meters	500 meters	Any occupied burrow	October 16 – March 31	50 meters	100 meters	500 meters	
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		<p>c. If avoidance of active burrows is infeasible, the owls can be passively displaced from their burrows according to recommendations made in the 2012 <i>Staff Report on Burrowing Owl Mitigation</i>. Burrowing owls shall not be excluded from burrows unless or until the following circumstances occur:</p>																								
		<p>1. Occupied burrows shall not be disturbed during the nesting season unless a qualified biologist meeting the Biologist Qualifications set forth in the 2012 <i>Staff Report on Burrowing Owl Mitigation</i> verifies through noninvasive methods that either: (1) the owls have not begun egg-laying and incubation or (2) juveniles from the occupied burrows are foraging independently and are capable of</p>																								

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Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>independent survival. Burrowing owls shall not be moved or excluded from burrows during the breeding season.</p> <p>2. A Burrowing Owl Exclusion Plan shall be developed and approved by the applicable local California Department of Fish and Wildlife office and submitted to the Kern County Planning and Natural Resources Department. The plan shall include, at a minimum:</p> <ul style="list-style-type: none"> A. confirmation by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping; B. the type of scope and appropriate timing of scoping to avoid impacts; C. occupancy factors to look for and what will guide determination of vacancy and excavation timing (one-way doors shall be left in place 48 hours to ensure burrowing owls have left the burrow before excavation, visited twice daily, and monitored for evidence that owls are inside and cannot escape [i.e., look for sign immediately inside the door]); D. how the burrow(s) will be excavated, including excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated 	

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		<p>and it can be determined that no owls reside inside the burrow);</p> <ul style="list-style-type: none"> E. removal of other potential owl burrow surrogates or refugia on-site; F. photographs of the excavation and closure of the burrow to demonstrate success and sufficiency; G. monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take; and H. how the impacted site will continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete. <ul style="list-style-type: none"> 3. Permanent loss of occupied burrow(s) and habitat is mitigated in accordance with the measures described below. 4. Temporary exclusion is mitigated in accordance with the measures described below. 5. Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their burrows sufficient to ensure take is avoided. Conduct daily monitoring for 1 week to confirm young of the year have fledged if the exclusion will occur 	

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Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>immediately after the end of the breeding season.</p> <p>6. Excluded burrowing owls are documented using artificial or natural burrows on an adjoining mitigation site (if able to confirm by band resight).</p> <p>d. In accordance with the Burrowing Owl Exclusion Plan, a qualified wildlife biologist shall excavate burrows using hand tools. Sections of flexible plastic pipe or burlap bag shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow. Forty-eight hours after the installation of the one-way doors, the doors can be removed, and ground-disturbing activities can proceed. Alternatively, burrows can be filled to prevent reoccupation.</p> <p>e. During ground-disturbing activities, monthly and final compliance reports shall be provided to the California Department of Fish and Wildlife, the Kern County Planning and Natural Resources Department, and other applicable resource agencies documenting the effectiveness of mitigation measures and the level of burrowing owl take associated with the proposed project.</p> <p>f. Should burrowing owls be found within the composting facility footprint, compensatory mitigation for lost breeding and/or wintering habitat shall be implemented on-site or off-site in accordance with the <i>Staff Report on Burrowing Owl Mitigation</i> guidance and in consultation with the California Department of Fish and Wildlife. At a minimum, the following recommendations shall be implemented:</p> <p>1. Restore temporarily disturbed habitat, if feasible, to pre-project conditions, including</p>	

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		<p>decompacting soil and revegetating. If restoration is not feasible, then the project proponent shall implement “b” below.</p> <ol style="list-style-type: none"> <li>2. Mitigate permanent impacts to nesting, occupied, and satellite burrows and/or burrowing owl habitat such that the habitat acreage, number of burrows, and burrowing owls impacted are replaced based on a site-specific analysis and shall include permanent conservation of similar vegetation communities (grassland, scrub lands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals. Conservation shall occur in areas that support burrowing owl habitat and can be enhanced to support more burrowing owls. <li>3. Permanently protect mitigation land through a conservation easement deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a California Department of Fish and Wildlife-approved burrowing owl conservation bank, the project proponent/operator may purchase available burrowing owl conservation bank credits. <li>4. Develop and implement a mitigation land management plan in accordance with the <i>Staff Report on Burrowing Owl Mitigation</i> guidelines to address long-term ecological 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>sustainability and maintenance of the site for burrowing owls.</p> <ol style="list-style-type: none"> 5. Fund the maintenance and management of mitigation land through the establishment of a long-term funding mechanism, such as an endowment. 6. Habitat shall not be altered or destroyed, and burrowing owls shall not be excluded from burrows, until mitigation lands have been legally secured; are managed for the benefit of burrowing owls according to California Department of Fish and Wildlife-approved management, monitoring, and reporting plans; and the endowment or other long-term funding mechanism is in place or security is provided until these measures are completed. 7. Mitigation lands shall be on, adjacent to, or in proximity to the impact site, where feasible, and where habitat is sufficient to support burrowing owls. 8. Consult with the California Department of Fish and Wildlife when determining off-site mitigation acreages. <p>MM 4.3-12: (COM) Survey protocols and den definitions should be consistent with the U.S. Fish and Wildlife Service <i>Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance</i> (2011) or current agency protocols and requirements. Den buffer zones and excavation procedures should be consistent with the U.S. Fish and Wildlife Service recommendations. Should San Joaquin kit fox dens be found, protection measures should include the following:</p> <ol style="list-style-type: none"> a. Potential and known San Joaquin kit fox dens (as defined in the U.S. Fish and Wildlife Service 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>recommendations) shall be avoided by 50-foot and 100-foot buffers, respectively, if possible. If it is not possible to avoid potential or known San Joaquin kit fox dens, then the procedures specified below that pertain to San Joaquin kit fox shall be followed.</p>	
		<p>b. Potential dens with no sign of San Joaquin kit fox presence shall be monitored for 4 nights using tracking material and/or an infrared camera. Potential dens may be excavated once it is confirmed that no San Joaquin kit fox is present. If San Joaquin kit fox or sign of San Joaquin kit fox is observed at any time during the monitoring or excavation of a potential den, its status becomes known, and procedures described below for treatment of known dens must be implemented.</p>	
		<p>c. If a known den cannot be avoided by project activities, U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted regarding Endangered Species Act and California Endangered Species Act compliance, respectively. Should it be determined that Endangered Species Act and California Endangered Species Act authorization is not required, unavoidable known San Joaquin kit fox dens may be excavated under the supervision of a Kern County-approved qualified biologist, provided that each are shown through standard monitoring methods (see below) to be unoccupied. U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife shall be contacted no less than 30 days prior to implementation of these measures to provide each agency the opportunity to provide guidance regarding the potential destruction of known San Joaquin kit fox dens.</p>	
		<p>1. Known San Joaquin kit fox dens shall be monitored by placing tracking material, or other means of detecting activity (e.g.,</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>camera stations, etc.), at each den entrance and checking each morning until no San Joaquin kit fox activity is recorded for 4 consecutive days.</p> <p>2. A qualified biologist shall be present during all San Joaquin kit fox den monitoring and excavations.</p> <p>3. At a minimum, the U.S. Fish and Wildlife Service recommendations shall be implemented if Endangered Species Act and California Endangered Species Act take permits are issued for the project.</p> <p>d. If a San Joaquin kit fox natal/pupping den cannot be avoided by 500 feet, the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted for further guidance.</p> <p>e. Other avoidance and minimization measures, not described above, may be employed to preserve denning opportunities and protect wildlife, as needed. For example, San Joaquin kit fox potential dens within the recommended buffer may be temporarily blocked after appropriate monitoring and documentation of vacancy to discourage San Joaquin kit fox from denning during construction or other activities. Once construction activities are completed, blocked dens in buffer areas shall be reopened.</p> <p>MM 4.3-13: (COM) If any Federally or State-listed species cannot be avoided by project activities conducted within the composting facility footprint, appropriate Endangered Species Act and California Endangered Species Act authorizations for the subject species shall be obtained. At a minimum, these authorizations should include the following avoidance and minimization measures:</p> <p>a. Avoidance and minimization measures intended to minimize the impacts to listed species;</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<ul style="list-style-type: none"> b. Capture and relocation of individual listed small mammals through implementation of a Mortality Reduction and Relocation Plan to be approved by either U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, or both in the case of a dually listed species; c. Compensation for habitat disturbance at ratio of no less than 3:1 for permanent impacts and 1.1:1 for temporary impacts to listed species habitat; and d. Provision of funding for preservation and management of compensation lands in perpetuity. 	
Impact 4.3-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in regional or local plans, policies, regulations, or by the USFWS or CDFW.	No impact (COM, BEF, LDF)	No mitigation would be required.	No impact (COM, BEF, LDF)
Impact 4.3-3: The project would have a substantial adverse effect on Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	No impact (COM, BEF, LDF)	No mitigation would be required.	No impact (COM, BEF, LDF)
Impact 4.3-4: 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.	Less than significant (COM, BEF, LDF)	Implement Mitigation Measures MM 4.1-1 (COM, BEF, LDF) and MM 4.3-3 (COM, BEF) .	Less than significant (COM, BEF, LDF)
Impact 4.3-5: The project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Potentially significant (COM, BEF, LDF)	Implement Mitigation Measures MM 4.1-1 (COM, BEF, LDF) , MM 4.3-1 (COM, BEF) through MM 4.3-3 (COM, BEF) , MM 4.3-4 (COM) through MM 4.3-6 (COM) , MM 4.3-7 (COM, BEF) , and MM 4.3-8 (COM) through MM 4.3-13 (COM) .	Less than significant (COM, BEF, LDF)
Impact 4.3-6: The project would conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved State, regional, or local HCP.	No impact (COM, BEF, LDF)	No mitigation would be required.	No impact (COM, BEF, LDF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
Impact 4.3-7: The project would contribute to cumulative biological resource impacts.	Significant and unavoidable (COM)	Implement Mitigation Measures MM 4.1-1 (COM, BEF, LDF), MM 4.3-1 (COM, BEF) through MM 4.3-3 (COM, BEF), MM 4.3-4 (COM) through MM 4.3-6 (COM), MM 4.3-7 (COM, BEF), MM 4.3-8 (COM), and MM 4.3-9 (COM), MM 4.3-10 (COM), MM 4.3-11 (COM), MM 4.3-12 (COM), and MM 4.3-13 (COM).	Significant and unavoidable (COM)
	Potentially significant (BEF, LDF)	Implement Mitigation Measures MM 4.1-1 (COM, BEF, LDF), MM 4.3-1 (COM, BEF) through MM 4.3-3 (COM, BEF), and MM 4.3-7 (COM, BEF).	Less than Significant (BEF, LDF)
Cultural Resources			
Impact 4.4-1: The proposed project would cause a substantial adverse change in the significance of a historical or archaeological resource as defined in Section 15064.5.	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Less than significant (COM)	No mitigation would be required.	Less than significant (COM)
	Potentially significant (BEF)	<p>MM 4.4-1: (BEF) The project proponent/operator shall retain a Lead Archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior 2011), to carry out all mitigation measures related to archaeological and unique historical resources. The contact information for this Lead Archaeologist shall be provided to the Kern County Planning and Natural Resources Department prior to the commencement of any construction activities on-site. Further, the Lead Archaeologist shall be responsible for ensuring the following employee training provisions are implemented during implementation of the project:</p> <ul style="list-style-type: none"> a. Prior to commencement of any ground-disturbing activities, the Lead Archaeologist in consultation with the Native American monitor(s) shall conduct a Cultural Resources Sensitivity Training for all personnel working on the project. A Cultural Resources Sensitivity Training Guide approved by the Lead Archaeologist shall be provided to all personnel. A copy of the Cultural Resources Sensitivity Training 	Less than significant (BEF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form. A copy of the proposed training materials shall be provided to the Kern County Planning and Natural Resources Department prior to the issuance of any grading or building permit.</p> <p>The training shall include an overview of potential cultural resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the Lead Archaeologist and/or Native American monitor(s) for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources.</p> <ul style="list-style-type: none"> b. The project proponent/operator shall ensure all employees or on-site workers who have not participated in earlier Cultural Resources Sensitivity Trainings shall meet the provisions specified above. c. A copy of the Cultural Resources Sensitivity Training Guide/ Materials shall be kept on-site and available for all personnel to review and be familiar with, as necessary. It is the responsibility of the Lead Archaeologist to ensure all employees receive appropriate training before working on-site. <p>MM 4.4-2: (BEF) Prior to the issuance of any grading or building permit, the project proponent/operator shall submit a Cultural Resources Treatment Plan to the Kern County Planning and Natural Resources Department. The plan shall:</p> <ul style="list-style-type: none"> a. Provide an overview of best management practices to be utilized during construction activities to ensure protection of cultural resources. 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>b. Outline the process for evaluation of any unanticipated cultural discoveries during project construction activities.</p>	
		<p>MM 4.4-3: (BEF) During construction of the bioenergy facility, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground-disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as the Native American monitor. The Lead Archaeologist shall evaluate the significance of the resources and recommend appropriate treatment measures. If further treatment of the discovery is necessary, the Environmentally Sensitive Area shall remain in place until all work is completed. Per California Environmental Quality Act <i>Guidelines</i> Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources.</p>	
		<p>Consistent with California Environmental Quality Act <i>Guidelines</i> Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the Lead Archaeologist shall develop additional treatment measures in consultation with Kern County, which may include data recovery or other appropriate measures. Kern County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthened cultural resources if the resources are prehistoric or Native American in nature. Diagnostic archaeological materials with research potential recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist 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</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		Resources Department and Southern San Joaquin Valley Information Center at California State University, Bakersfield.	
Impact 4.4-2: The project would cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Less than significant (COM)	No mitigation would be required.	Less than significant (COM)
	Potentially significant (BEF)	Implement Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) .	Less than significant (BEF)
Impact 4.4-3: The proposed project would disturb human remains, including those interred outside of dedicated cemeteries.	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Potentially significant (COM, BEF)	MM 4.4-4: (COM, BEF) If human remains are uncovered during ground-disturbing activities, the project proponent/operator shall immediately halt work, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in California Environmental Quality Act <i>Guidelines</i> Section 15064.5 (e)(1). At that time, the project proponent shall contact the Kern County Planning and Natural Resources Department regarding the find. If the Kern County Coroner determines that the remains are Native American, the coroner shall contact the Native American Heritage Commission, in accordance with California Health and Safety Code Section 7050.5 (c) and Public Resources Code Section 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per Public Resources Code 5097.98. Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the Most Likely Descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the coroner, nor of Native American origin, provisions of the California Health and	Less than significant (COM, BEF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		Safety Code (Section 7100 et seq.) directing identification of the next of kin will apply. If any human remains are encountered, the Kern County Planning and Natural Resources Department shall be notified.	
Impact 4.4-4: The proposed project would contribute to cumulative cultural resources impacts.	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF).	Less than significant (COM, BEF)
Energy			
Impact 4.5-1: The project would result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
Impact 4.5-2: The project would conflict with or obstruct a State or local plan for renewable energy or energy efficiency.	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
Impact 4.5-3: The project would contribute to cumulative energy impacts.	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
Geology and Soils			
Impact 4.6-1(a): The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Less than significant (COM, BEF)	No mitigation would be required.	Less than significant (COM, BEF)
	No impact (LDF)	No mitigation would be required.	No impact (LDF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
<p>Impact 4.6-1(b): 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.</p>	<p>Potentially significant (COM, BEF)</p>	<p>MM 4.6-1: (COM, BEF) The project proponent shall limit grading to the minimum area necessary for construction. Prior to the initiation of construction, the project proponent shall retain a California-registered professional engineer to approve the final grading earthwork plans prior to construction.</p> <p>MM 4.6-2: (COM) The project proponent shall determine the final siting of the composting facility based on the results of the geotechnical studies already completed for the composting site and implement recommended measures to minimize geologic hazards. The project proponent shall not locate project facilities on or immediately adjacent to a fault trace. All structures shall be offset at least 100 feet from any mapped fault trace. Alternatively, a detailed fault-trenching investigation may be performed to accurately locate the fault trace(s) to avoid siting habitable structures on or close to these fault structures and to evaluate the risk of fault rupture. After locating the fault, accurate setback distances can be proposed.</p> <p>MM 4.6-3: (COM) The Kern County Public Works Department shall evaluate any final facility siting design developed prior to the issuance of any building or grading permits to verify that geological constraints have been avoided.</p> <p>MM 4.6-4: (COM, BEF) Prior to the issuance of grading permits, the project proponent shall retain a California-registered professional geotechnical engineer to design the project facilities to withstand probable seismically induced ground shaking at the site, if applicable as determined by the Kern County Public Works Department.</p> <ul style="list-style-type: none"> a. 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 procedures and site conditions shall encompass site preparation, foundation specifications, and protection measures for buried metal. 	<p>Less than significant (COM, BEF)</p>

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>b. The final structural design shall be subject to approval and follow-up inspection by the Kern County Public Works Department. Final design requirements shall be provided to the on-site construction supervisor and Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the Kern County Planning and Natural Resources Department.</p>	
		<p>MM 4.6-5: (COM, BEF) Prior to the issuance of grading permits, a geotechnical evaluation, consisting of field exploration (drilling and soil sampling), laboratory testing of soil samples, and engineering analysis, if applicable as determined by the Kern County Public Works Department, shall be prepared to determine soil properties related, but not limited, to ground-motion acceleration parameters, the amplification properties of the subsurface units at the specific site, the potential for hydrocompaction to affect the proposed facilities, and the potential for collapsible, subsiding, or expansive soils to affect the proposed facilities.</p>	
		<p>These studies shall be used to determine the appropriate engineering for foundations and support structures as well as building requirements to minimize geotechnical hazard impacts. Copies of all analyses shall be submitted to the Kern County Public Works Department for review and approval. An approved copy of the evaluation shall be submitted to the Kern County Planning and Natural Resources Department.</p>	
		<p>MM 4.6-6: (BEF) Prior to the issuance of building or grading permits for the project, the project proponent shall conduct a full geotechnical study for the proposed bioenergy facility, if applicable as determined by the Kern County Public Works Department, 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.</p>	
		<p>a. The geotechnical study must be signed by a California-registered professional engineer and must identify the following:</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<ol style="list-style-type: none"> 1. Location of fault traces and potential for surface rupture and ground shaking potential; 2. Maximum considered earthquake and associated ground acceleration; 3. Potential for seismically induced liquefaction, landslides, differential settlement, and mudflows; 4. Stability of any existing or proposed cut-and-fill slopes; 5. Collapsible or expansive soils; 6. Foundation material type; 7. Recommendations for placement and design of facilities, foundations, and remediation of unstable ground; 8. Location and description of unprotected drainage that could be impacted by the proposed development; and 9. Recommendations for placement and design of facilities, foundations, and remediation of unstable ground. 10. The project proponent shall determine the final siting of the bioenergy facility based on the results of the geotechnical studies and implement recommended measures to minimize geologic hazards. The project proponent shall not locate project facilities on or immediately adjacent to a fault trace. All structures shall be offset at least 100 feet from any mapped fault trace. Alternatively, a detailed fault-trenching investigation may be performed to accurately locate the fault trace(s) to avoid siting habitable structures on or close to these fault structures and to 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		evaluate the risk of fault rupture. After locating the fault, accurate setback distances can be proposed.	
		b. The Kern County Public Works Department shall evaluate any final facility siting design developed prior to the issuance of any building or grading permits to verify that geological constraints have been avoided.	
Impact 4.6-1(c): The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Less than significant (COM)	No mitigation would be required.	Less than significant (COM)
	Potentially significant (BEF)	Implement Mitigation Measure MM 4.6-6 (BEF) .	Less than significant (BEF)
Impact 4.6-1(d): The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Less than significant (COM, BEF)	No mitigation would be required.	Less than significant (COM, BEF)
Impact 4.6-2: The project would result in substantial soil erosion or the loss of topsoil.	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measures MM 4.2-2 (COM, BEF) and MM 4.2-3 (COM, BEF) , in addition to the mitigation measures listed below. MM 4.6-7: (COM, BEF) The construction contractor shall incorporate best management practices consistent with the National Pollutant Discharge Elimination System General Construction Permit Program for all construction projects that would not retain all stormwater on-site and the Kern County Grading Code. The project proponent shall prepare an Erosion and Sedimentation Control Plan as well as a Stormwater Pollution Prevention Plan. The Stormwater Pollution Prevention Plan shall be prepared by a Qualified Stormwater Pollution Prevention Plan Developer and submitted for review and	Less than significant (COM, BEF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>approval by the applicable Regional Water Quality Control Board. The Stormwater Pollution Prevention Plan best management practices shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> a. Scheduling to avoid ground disturbance during rain events to the maximum extent possible; b. Preservation of existing vegetation and topography to the maximum extent practicable; c. Stabilized construction entrances and exits; d. Erosion control (including all pertinent temporary erosion control practices as specified in Chapter 17.28.140 of the Kern County Grading Code), such as mulching, temporary drains and cullies, sandbag barrier, geotextiles and mats, silt fences, brush or rock filters, earth dikes, straw bale barriers, and sediment traps; e. Sediment control; f. Waste management; g. Good housekeeping; and h. Post-construction site stabilization. <p>Prior to initial construction mobilization, preconstruction surveys shall be performed and sediment and erosion controls shall be installed in accordance with the approved Stormwater Pollution Prevention Plan. A copy of the approved Stormwater Pollution Prevention Plan shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p>MM 4.6-8 (COM, BEF) Prior to construction, the project proponent shall submit grading plans accompanied by a soils engineering report, engineering geology report, and drainage calculations pursuant to the Kern County Grading Code (Section 17.28.070) to the Kern County Public Works Department in order to obtain required grading permits.</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
<p>Impact 4.6-3: The project would be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.</p>	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Less than significant (COM)	No mitigation would be required.	Less than significant (COM)
	Potentially significant (BEF)	Implement Mitigation Measure MM 4.6-6 (BEF) .	Less than significant (BEF)
<p>Impact 4.6-4: The project would be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (1994), creating substantial risks to life or property.</p>	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measures MM 4.6-1 (COM, BEF) and MM 4.6-6 (BEF) .	Less than significant (COM, BEF)
<p>Impact 4.6-5: The project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.</p>	No impact (LDF, COM)	No mitigation would be required.	No impact (LDF, COM)
	Potentially significant (BEF)	<p>MM 4.6-9: (BEF) Prior to the issuance of permits for the bioenergy facility, the project proponent must provide evidence to the Kern County Planning and Natural Resources Department that the Kern County Public Health Services Department approves of proposed septic design plans and leach fields that comply with the California Building Code (California Code of Regulations Title 24), which includes standards for septic tanks and seepage pits in Chapter 8.60, as well as the Kern County New Development Standards, and that a site-specific analysis of soil permeability shall be performed by a California-licensed geotechnical engineer that demonstrates project soils can adequately support the use of a septic disposal system.</p>	Less than significant (BEF)
<p>Impact 4.6-6: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</p>	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Potentially significant (COM, BEF)	<p>MM 4.6-10: (BEF) The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology’s Professional Standards (Society for Vertebrate Paleontology 2010), to carry out all mitigation measures related to paleontological resources. The qualified</p>	Less than significant (COM, BEF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>paleontologist and the Lead Archaeologist may be the same individual:</p> <ul style="list-style-type: none"> 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 the qualified paleontologist shall be provided to all personnel. A copy of the Paleontological Resources Awareness Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form. b. The Paleontological Resources Awareness Training may be conducted in conjunction with the archaeological resources training required by Mitigation Measure MM 4.4-1 (BEF) included in Section 4.4, <i>Cultural Resources</i>. 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 fossil collecting or intentional disturbance of paleontological resources. d. The project operator shall ensure all new on-site construction personnel who have not participated in earlier Paleontological Resources Awareness Trainings shall meet the provisions specified above. e. The Paleontological Resources Awareness Training Guides shall be kept available for all personnel to review and be familiar with, as necessary. <p>MM 4.6-11: (BEF) During construction activities, a qualified paleontologist shall be retained to monitor all ground-disturbing</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>activities conducted within native soils (depth to be determined by geotechnical report prepared under Mitigation Measure MM 4.6-6 (BEF)). The duration and timing of monitoring shall be determined by the qualified paleontologist in consultation with the Kern County Planning and Natural Resources Department and based on a review of geologic maps and grading plans. During the course of monitoring, if the paleontologist can demonstrate, based on observations of subsurface conditions, that the level of monitoring should be reduced, the paleontologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of monitoring to circumstances, as warranted.</p> <p>MM 4.6-12: (COM, BEF) During implementation of the project, if a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the significance of the resource(s) and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository.</p>	
<p>Impact 4.6-7: The project would contribute to cumulative geology and soil resource impacts.</p>	<p>No impact (LDF)</p> <hr/> <p>Potentially significant (COM, BEF)</p>	<p>No mitigation would be required.</p> <hr/> <p>Implement Mitigation Measures MM 4.2-2 (COM, BEF) and MM 4.2-3 (COM, BEF), MM 4.6-1 (COM, BEF), MM 4.6-2 (COM, BEF), MM 4.6-3 (COM, BEF), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), MM 4.6-9 (BEF), MM 4.6-10 (BEF), MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF).</p>	<p>No impact (LDF)</p> <hr/> <p>Less than significant (COM, BEF)</p>

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
Greenhouse Gas Emissions			
Impact 4.7-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than significant (COM, BEF, LDF)	No mitigation would be required; however, implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), and MM 4.2-7 (LDF) would further reduce GHG impacts.	Less than significant (COM, BEF, LDF)
Impact 4.7-2: The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
Impact 4.7-3: The project would contribute to cumulative greenhouse gas emissions impacts.	Less than significant (COM, BEF, LDF)	No mitigation would be required; however, implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), and MM 4.2-7 (LDF) would further reduce GHG impacts.	Less than significant (COM, BEF, LDF)
Hazards and Hazardous Materials			
Impact 4.8-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Less than significant (LDF)	No mitigation would be required.	Less than significant (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measures MM 4.17-3 (COM, BEF) , in addition to the mitigation measures listed below. MM 4.8-1: (COM, BEF) Prior to operation of the composting and bioenergy facilities, the project proponent/operator shall update the existing Landfill Operations Safety Plan to include additional measures to address worker safety and protection associated with operation of the new facilities. The updated plan shall include specific measures regarding the handling of aqueous ammonia and shall require training for all personnel involved in the handling of aqueous ammonia. The plan shall also include a summary identifying how the project proponent will implement the requirements for storage and handling of aqueous ammonia to assure the facility is adequately designed to minimize the potential for accidental releases.	Less than significant (COM, BEF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>MM 4.8-2: (COM, BEF) During the life of the composting and bioenergy facilities, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan for each facility, as applicable, pursuant to Article 1 and Article 2 of California Health and Safety Code 6.95 and in accordance with Kern County Ordinance Code 8.04.030, by submitting all the required information to the California Environmental Reporting System at http://cers.calepa.ca.gov/ for review and acceptance by the Kern County Environmental Health Services Department/Hazardous Materials Section. The Hazardous Materials Business Plan shall:</p> <ol style="list-style-type: none"> a. Delineate hazardous material and hazardous waste storage areas. b. Describe proper handling, storage, transport, and disposal techniques. c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill. d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction 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. <p>The project proponent shall ensure that all contractors working on the project are familiar with the facility's Hazardous Materials Business Plan as well as ensure that one copy is available at the project site at all times. In addition, a copy of the accepted Hazardous Materials Business Plan from the California Environmental Reporting System shall be submitted to the Kern County Planning and Natural Resources Department for inclusion in the project's permanent record.</p> <p>MM 4.8-3: (COM, BEF) The project proponent shall obtain approval of a Spill Prevention Control and Countermeasures</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>Response Plan from the California Department of Water Resources and the Kern County Public Health Services Department/Environmental Health Services Division.</p> <p>MM 4.8-4: (BEF) Prior to issuance of construction or grading permits at Site B, the project proponent shall conduct testing of a composite sample of the hydrocarbon-impacted soil and analyze the soil for Total Petroleum Hydrocarbons as carbon chain (TPH-cc), Volatile Organic Compounds (VOCs), and Title 22 Metals for profiling purposes. After issuance of construction or grading permits, before any ground disturbance, and once the profile has been accepted by the testing laboratory, the project proponent shall excavate the soil and dispose of the contaminated soil off-site at an approved landfill to the satisfaction of the Kern County Planning and Natural Resources Department.</p>	
<p>Impact 4.8-2: 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.</p>	<p>Less than significant (LDF)</p> <p>Potentially significant (COM, BEF)</p>	<p>No mitigation would be required.</p> <p>MM 4.8-5: (COM, BEF) Prior to operation of the composting and bioenergy facilities, the project proponent shall update the landfill facility's existing Report of Disposal Site Information and Emergency Preparedness Plan to include additional measures associated with the operation of the new composting and bioenergy facilities.</p>	<p>Less than significant (LDF)</p> <p>Less than significant (COM, BEF)</p>
<p>Impact 4.8-3: The project is not located within ¼ mile of an existing or proposed school. Therefore, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school.</p>	<p>No impact (COM, BEF, LDF)</p>	<p>No mitigation would be required.</p>	<p>No impact (COM, BEF, LDF)</p>
<p>Impact 4.8-4: The project is not located on a site that is included on a list of hazardous materials sites pursuant to Government Code Section 65962.5, and as a result would not create a significant hazard to the public or environment.</p>	<p>No impact (COM, BEF, LDF)</p>	<p>No mitigation would be required.</p>	<p>No impact (COM, BEF, LDF)</p>

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
Impact 4.8-5: The project is not located within the adopted Kern County Airport Land Use Compatibility Plan and the project would not result in a safety hazard or excessive noise for people residing or working in the project area.	No impact (COM, BEF, LDF)	No mitigation would be required.	No impact (COM, BEF, LDF)
Impact 4.8-6: The project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.	Less than significant (LDF)	No mitigation would be required.	Less than significant (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measure MM 4.15-3 (COM, BEF) .	Less than significant (COM, BEF)
Impact 4.8-7: The project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	Potentially significant (COM, BEF, LDF)	Implement Mitigation Measure MM 4.8-5 (COM, BEF) , in addition to the measure listed below. MM 4.8-6: (COM, BEF, LDF) Prior to operation of the composting, bioenergy, and landfill facilities and acceptance of additional waste streams at the landfill, the project proponent shall prepare a Fire Prevention Plan for review and approval by Kern County in conjunction with the Kern County Fire Department.	Less than significant (COM, BEF, LDF)
Impact 4.8-8: The project would generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste exceeding adopted qualitative thresholds.	Potentially significant (COM, BEF, LDF)	MM 4.8-7: (COM, BEF, LDF) The project proponent shall update the landfill facility's Integrated Pest Management Plan for approval by the Kern Mosquito and Vector Control District and Kern County Environmental Health Services Division. The update shall include measures to combat vector infestation related to the new waste streams, composting facility, and bioenergy facility, including ancillary components, such as retention ponds. When housekeeping and biological controls prove ineffective, or have provided limited effectiveness, chemicals (i.e., pesticides) may supplement the program. When chemicals are used, special care shall be taken to select and apply chemicals that are compatible with existing biological controls (i.e., those that do not kill parasitic wasps). These chemicals will be used only as necessary and in compliance with Federal and State laws and regulations regarding pesticide storage, application, and disposal. Chemicals classified as	Less than significant (COM, BEF, LDF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
Impact 4.8-9: The project would contribute to cumulative hazards and hazardous materials impacts.	Potentially significant (COM, BEF, LDF)	<p>restricted materials will be applied only under permits issued by the Kern County Agricultural Commissioner. Bulk pesticides will be applied only by a State-licensed Pesticide Applicator. Insecticides will be prepared and applied in conformance with practices recommended by the University of California Cooperative Extension. The Integrated Pest Management Plan shall contain a record-keeping protocol, which shall be followed, and records kept on site and available upon request by the Kern County Vector and Mosquito Abatement District and Kern County Environmental Health Services Division.</p> <p>MM 4.8-8: (COM, BEF, LDF) Should the Local Enforcement Agency indicate that vectors and/or birds are creating a nuisance even with implementation of the Integrated Pest Management Plan, additional control measures shall be implemented such as but not limited to:</p> <ul style="list-style-type: none"> a. The services of a local pest control firm may be employed for vector eradication; b. The implementation of an integrated bird control strategy in consultation with the appropriate wildlife agencies; or c. Review of alternative daily cover to determine if a different method of daily cover, or the use of soil, would improve the control of vectors. 	Less than significant (COM, BEF, LDF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
Hydrology and Water Quality			
Impact 4.9-1: The project would violate water quality standards or waste discharge requirements.	Less than significant (LDF)	No mitigation would be required.	Less than significant (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measures MM 4.6-7 (COM, BEF) and MM 4.8-3 (COM, BEF) .	Less than significant (COM, BEF)
Impact 4.9-2: The project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
Impact 4.9-3: The project would not substantially alter the existing drainage pattern of the site or area in a manner which would:	Less than significant (LDF)	No mitigation would be required.	Less than significant (LDF)
<ul style="list-style-type: none"> i. result in a substantial erosion or siltation on- or off-site; ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv. impede or redirect flood flows. 	Potentially significant (COM, BEF)	Implement Mitigation Measures MM 4.6-1 (COM, BEF) , MM 4.6-4 (COM, BEF) , MM 4.6-5 (COM, BEF) , MM 4.6-6 (BEF) , MM 4.6-7 (COM, BEF) , MM 4.6-8 (COM, BEF) , and MM 4.8-3 (COM, BEF) .	Less than significant (COM, BEF)
Impact 4.9-4: The project is not located in flood hazard, tsunami, or seiche zones, and the project would not risk release of pollutants due to project inundation.	No impact (COM, BEF, LDF)	No mitigation would be required.	No impact (COM, BEF, LDF)
Impact 4.9-5: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
<p>Impact 4.9-6: The project would contribute to cumulative hydrology and/or water quality impacts.</p>	<p>Less than significant (LDF)</p>	<p>No mitigation would be required.</p>	<p>Less than significant (LDF)</p>
	<p>Potentially significant (COM, BEF)</p>	<p>Implement Mitigation Measures MM 4.6-1 (COM, BEF), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), and MM 4.8-3 (COM, BEF).</p>	<p>Less than significant (COM, BEF)</p>
<p>Land Use and Planning</p>			
<p>Impact 4.10-1: The project would physically divide an established community.</p>	<p>No impact (COM, BEF, LDF)</p>	<p>No mitigation would be required.</p>	<p>No impact (COM, BEF, LDF)</p>
<p>Impact 4.10-2: 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.</p>	<p>Potentially significant (COM, BEF, LDF)</p>	<p>Implement Mitigation Measures MM 4.1-1 (COM, BEF, LDF); MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM); MM 4.3-1 (COM, BEF) through MM 4.3-3 (COM, BEF), MM 4.3-4 (COM) through MM 4.3-6 (COM), MM 4.3-7 (COM, BEF), and MM 4.3-8 (COM) through MM 4.3-13 (COM); MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF); MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), MM 4.6-9 (BEF), MM 4.6-10 (BEF), MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF); MM 4.8-1 (COM, BEF) through MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), MM 4.8-6 (COM, BEF, LDF), MM 4.8-7 (COM, BEF, LDF), and MM 4.8-8 (COM, BEF, LDF); MM 4.12-1 (COM, BEF); MM 4.14-1 (COM, BEF); MM 4.15-1 (COM), MM 4.15-2 (COM), MM 4.15-3 (COM, BEF), and MM 4.15-4 (COM, BEF); and MM 4.17-1 (BEF), MM 4.17-2 (COM), MM 4.17-3 (COM, BEF), MM 4.17-4 (COM, LDF), and MM 4.17-5 (COM), in addition to the mitigation measures listed below.</p> <p>MM 4.10-1: (COM) Prior to issuance of any building permit, the project proponent shall provide a Closure Plan for Pit E for review and approval by the Local Enforcement Agency.</p>	<p>Less than significant (COM, BEF, LDF)</p>

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>MM 4.10-2: (BEF) Prior to issuance of any building permit, the project proponent shall provide a Decommission Plan for review and approval by the Kern County Planning and Natural Resources Department. The Decommission Plan would be carried out by the project proponent or a Kern County-contracted consulting firm(s) at a cost to be borne by the project proponent. The Decommission Plan shall factor in the cost to remove the gasification system and support systems and structures, replace any disturbed soil from removal of support structures, and control fugitive dust on the remaining undeveloped land. The repurposing, resale, and salvage value of all personal property, including the gasification system and support structures, and real property interests, if any, held by the project proponent on the date of original valuation and as adjusted annually by the Kern County Planning and Natural Resources Department or Kern County-contracted consulting firm(s), as described below, 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 bioenergy facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project proponent shall post or establish and maintain financial assurances with Kern County related to the deconstruction of the site as identified in the approved Decommission Plan in the event that at any point in time the project proponent determines it is not in the company's best interest to operate the facility.</p> <p>The financial assurance required prior to issuance of any building permit shall be established using one of the following:</p> <ol style="list-style-type: none"> a. An irrevocable letter of credit; b. A surety bond; c. A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommission plan; or 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>d. Other financial assurances as reviewed and approved by the respective Kern County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.</p> <p>The financial institution or surety company shall give Kern County at least a 30-day notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed every 5 years by the Kern County Planning and Natural Resources Department or Kern 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 gasification systems and support structures identified on the approved Decommission Plan. Should the project operator deconstruct the site on their own, Kern County will not pursue forfeiture of the financial assurance.</p> <p>Once deconstruction has occurred, financial assurance will no longer be required, and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommission of the site by Kern County shall be returned to the project proponent.</p> <p>Should the bioenergy facility not be in operational condition for a consecutive period of 24 months due to reasons within the sole and reasonable control of the property owner, the site shall be deemed abandoned and shall be removed within 60 days from the date a written notice is sent to the property owner, as well as the project operator, by Kern County. Within this 60-day period, the property 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 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 <i>Kern County Zoning Ordinance</i>. In no case shall a bioenergy facility that has been deemed abandoned after notice to the owner and a written determination by the Kern County Planning and Natural Resources Director be permitted to remain in place</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
Impact 4.10-3: The project would contribute to cumulative land use and planning impacts.	Potentially significant (COM, BEF, LDF)	for more than 48 months from the date the bioenergy facility was first deemed abandoned by written determination by the Kern County Planning and Natural Resources Director.	Less than significant (COM, BEF, LDF)
		Implement Mitigation Measures MM 4.10-1 (COM) and 4.10-2 (BEF) , as well as MM 4.1-1 (COM, BEF, LDF); MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM); MM 4.3-1 (COM, BEF) through MM 4.3-3 (COM, BEF), MM 4.3-4 (COM) through MM 4.3 6 (COM), MM 4.3-7 (COM, BEF), and MM 4.3-8 (COM) through MM 4.3-13 (COM); MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF); MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6 4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), MM 4.6-9 (BEF), MM 4.6-10 (BEF), MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF); MM 4.8-1 (COM, BEF) through MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), MM 4.8-6 (COM, BEF, LDF), MM 4.8-7 (COM, BEF, LDF), and MM 4.8-8 (COM, BEF, LDF); MM 4.12-1 (COM, BEF); MM 4.14 1 (COM, BEF); MM 4.15-1 (COM), MM 4.15-2 (COM), MM 4.15-3 (COM, BEF), and MM 4.15-4 (COM, BEF); and MM 4.17-1 (BEF), MM 4.17-2 (COM), MM 4.17-3 (COM, BEF), MM 4.17-4 (COM, LDF), and MM 4.17 5 (COM).	
Mineral Resources			
Impact 4.11-1: The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Less than significant (COM, BEF)	No mitigation would be required.	Less than significant (COM, BEF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
Impact 4.11-2: 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.	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Less than significant (COM, BEF)	No mitigation would be required.	Less than significant (COM, BEF)
Impact 4.11-3: The project would contribute to cumulative mineral resources impacts.	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Less than significant (COM, BEF)	No mitigation would be required.	Less than significant (COM, BEF)
Noise			
Impact 4.12-1: The project would generate 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.	Less than significant (LDF)	No mitigation would be required.	Less than significant (LDF)
	Less than significant (COM, BEF)	MM 4.12-1: (COM, BEF) The following measures are to be implemented to further reduce short-term noise levels associated with project construction activities: <ul style="list-style-type: none"> a. Construction equipment shall be fitted with noise-reduction features such as mufflers and engine shrouds that are no less effective than those originally installed by the manufacturer. b. Construction activities at the project site shall comply with the hourly restrictions for noise-generating construction activities, as specified in the County's Code of Ordinances, Chapter 8.36. Accordingly, construction activities shall be prohibited between the hours of 9:00 p.m. to 6:00 a.m. on weekdays, and between 9:00 p.m. to 8:00 a.m. on weekends. These hourly limitations shall not apply to activities where hourly limitations would result in increased safety risk to workers or the public, such as commissioning and maintenance activities that must occur after dark to ensure photovoltaic arrays are not energized; 	Less than significant (COM, BEF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		unanticipated emergencies requiring immediate attention; or security patrols. c. Haul trucks shall not be allowed to idle for periods greater than 5 minutes, except as needed to perform a specified function (e.g., concrete mixing). d. On-site vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency). e. Back-up beepers for all construction equipment and vehicles shall be broadband sound alarms or adjusted to the lowest noise levels possible, provided that the Occupational Safety and Health Administration and California Division of Occupational Safety and Health safety requirements are not violated. On vehicles where back-up beepers are not available, alternative safety measures such as escorts and spotters shall be employed.	
Impact 4.12-2: The project would generate excessive ground-borne vibration or ground-borne noise levels.	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
Impact 4.12-3: The project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
Impact 4.12-4: The project would contribute to cumulative noise impacts.	Less than significant (LDF)	No mitigation would be required.	Less than significant (LDF)
	Less than significant (COM, BEF)	Implement Mitigation Measure MM 4.12-1 (COM, BEF).	Less than significant (COM, BEF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
Population and Housing			
Impact 4.13-1: The project would induce substantial unplanned population growth in an area, either directly or indirectly.	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Less than significant (COM, BEF)	No mitigation would be required.	Less than significant (COM, BEF)
Impact 4.13-2: The project would displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	No impact (COM, BEF, LDF)	No mitigation would be required.	No impact (COM, BEF, LDF)
Impact 4.13-3: The project would contribute to cumulative impacts on population and housing.	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Less than significant (COM, BEF)	No mitigation would be required.	Less than significant (COM, BEF)
Public Services			
Impact 4.14-1: The project could result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection 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.	Potentially significant (COM, BEF, LDF)	<p>Implement Mitigation Measures MM 4.8-1 (COM, BEF) through MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), and MM 4.8-6 (COM, BEF, LDF), in addition to the mitigation measure listed below.</p> <p>MM 4.14-1: (COM, BEF) Prior to the issuance of grading or building permits, the project proponent shall coordinate with Kern County to determine the need for payment of land development services fees, in accordance with the Kern County Land Development Services Fee Schedule, for impacts to Countywide public protection, sheriff's patrol and investigative services, and fire services. If payment of land development services fees is determined to be required for the project, the project proponent shall submit evidence of payment to the Kern County Planning and Natural Resources Department prior to issuance of grading or building permits.</p>	Less than significant (COM, BEF, LDF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
<p>Impact 4.14-2: The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered law enforcement facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for law enforcement services.</p>	Less than significant (LDF)	No mitigation would be required.	Less than significant (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measure MM 4.14-1 (COM, BEF) .	Less than significant (COM, BEF)
<p>Impact 4.14-3: The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered schools, parks, or other public facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.</p>	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
<p>Impact 4.14-4: The project would contribute to cumulative impacts to public services.</p>	Potentially significant (COM, BEF, LDF)	Implement Mitigation Measure MM 4.14-1 (COM, BEF) , as well as Mitigation Measures MM 4.8-1 (COM, BEF) through MM 4.8-3 (COM, BEF) , MM 4.8-4 (BEF) , MM 4.8-5 (COM, BEF) , and MM 4.8-6 (COM, BEF, LDF) .	Less than significant (COM, BEF, LDF)
Transportation and Traffic			
<p>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.</p>	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
<p>Impact 4.15-2: The project would conflict or be inconsistent with CEQA Guidelines Section 15064.3.</p>	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
<p>Impact 4.15-3: The project would substantially increase hazards due to a design feature.</p>	Less than significant (LDF)	No mitigation would be required.	Less than significant (LDF)
	Potentially significant (COM, BEF)	MM 4.15-1: (COM) Prior to construction of Phase 1 of the composting facility, the project proponent shall obtain an encroachment permit from the Kern County Public Works Department requiring construction of an asphalt-concrete paved private road approach along the Holloway Road Frontage. The	Less than significant (COM, BEF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>location of access will be approved by the Kern County Public Works Department prior to construction.</p> <p>MM 4.15-2: (COM) Prior to construction of Phase 3 of the composting facility, the project proponent shall obtain an encroachment permit from the Kern County Public Works Department requiring construction of a 0.1-foot asphalt-concrete overlay approximately 13,200 feet from State Route 46 to the project entrance on Holloway Road, per <i>Kern County Zoning Ordinance</i> Section 19.80.030 and Traffic Index calculations provided in the <i>Traffic Study for the Composting and Bioenergy</i> (Ruetters & Schuler Civil Engineers 2020).</p> <p>MM 4.15-3: (COM, BEF) Prior to the issuance of construction or building permits, the project proponent/operator shall:</p> <ul style="list-style-type: none"> a. Prepare and submit a Construction Traffic Control Plan to the Kern County Public Works Department – Development Review and the California Department of Transportation District 6 offices, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must address, at a minimum, the following issues: <ul style="list-style-type: none"> 1. Timing of deliveries of heavy equipment and building materials; 2. Directing construction traffic with a flag person; 3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic; 4. Ensuring access for emergency vehicles to the project site; 5. Temporarily closing travel lanes or delaying traffic during materials delivery, 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>transmission line stringing activities, or any other utility connections;</p> <ul style="list-style-type: none"> 6. Maintaining access to the adjacent property; and 7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hours. <ul style="list-style-type: none"> b. Obtain all necessary encroachment permits for the use of oversized/overweight vehicles that will utilize Kern 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 California Department of Transportation, Kern County Planning and Natural Resources Department, and Kern County Public Works Department – Development Review. c. Enter into a secured agreement with Kern County to ensure that any Kern 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 Kern County- and non-Kern County-maintained roads that demonstrably 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 Planning and Natural Resources Department and Kern County Public Works Department – Development Review. 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>e. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to Kern County. This information shall be submitted in DVD format. Kern County, in consultation with the project proponent/operator's engineer, shall determine project responsibility for the damage and the extent of remediation required, if any.</p> <p>MM 4.15-4: (COM, BEF) The project proponent shall submit annual truck traffic counts to the Kern County Planning and Natural Resources Department for mitigation monitoring.</p>	
Impact 4.15-4: The project would result in inadequate emergency access.	Less than significant (LDF)	No mitigation would be required.	Less than significant (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measure MM 4.15-3 (COM, BEF) .	Less than significant (COM, BEF)
Impact 4.15-5: The project would contribute to cumulative transportation and traffic impacts.	Less than significant (LDF)	No mitigation would be required.	Less than significant (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measures MM 4.15-1 (COM) , MM 4.15-2 (COM) , MM 4.15-3 (COM, BEF) , and MM 4.15-4 (COM, BEF) .	Less than significant (COM, BEF)
Tribal Cultural Resources			
Impact 4.16-1a: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in 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 CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k).	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF) .	Less than significant (COM, BEF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
<p>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.</p>	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF).	Less than significant (COM, BEF)
<p>Impact 4.16-2: The proposed project would contribute to cumulative cultural resources impacts.</p>	No impact (LDF)	No mitigation would be required.	No impact (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF).	Less than significant (COM, BEF)
Utilities and Service Systems			
<p>Impact 4.17-1: The project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.</p>	Less than significant (LDF)	No mitigation would be required.	Less than significant (LDF)
	Potentially significant (COM, BEF)	<p>Implement Mitigation Measure MM 4.6-7 (COM, BEF).</p> <p>MM 4.17-1: (BEF) Prior to operation of the bioenergy facility, the project proponent shall coordinate with Kern County Public Health Services Department, Environmental Health Division for approval of the new septic and wastewater facilities.</p> <p>MM 4.17-2: (COM) Prior to construction of the composting facility, the project proponent shall apply for an individual Waste Discharge Requirements for the proposed composting operation or incorporate composting operations into the landfill facility's existing Waste Discharge Requirements (Order R5-2010-0123).</p>	Less than significant (COM, BEF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
Impact 4.17-2: The project would have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
Impact 4.17-3: The project would result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
Impact 4.17-4: The project would not 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.	Less than significant (LDF)	No mitigation would be required.	Less than significant (LDF)
	Potentially significant (COM, BEF)	<p>MM 4.17-3: (COM, BEF) During construction and operation, debris and waste generated shall be recycled to the extent feasible.</p> <ul style="list-style-type: none"> a. An on-site Recycling Coordinator shall be designated by the project proponent to facilitate recycling as part of the Maintenance, Trash Abatement, and Pest Management Program. b. The Recycling Coordinator shall facilitate recycling of all construction waste through coordination with contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. c. The on-site Recycling Coordinator shall also be responsible for ensuring wastes requiring special disposal are handled according to State and Kern County regulations that are in effect at the time of disposal. d. Contact information for the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits. 	Less than significant (COM, BEF)
		MM 4.17-4: (COM) The owner/operator of the project shall continuously comply with all of the following provisions.	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<ul style="list-style-type: none"> a. The reporting and payment provisions below shall commence within 10 days of the facility receiving a revised Solid Waste Facility Permit from California Department of Resources Recycling and Recovery permitting the facility, among other things, to receive food waste and manure, and removing the tonnage sublimits. A copy of the issued permit shall be provided to the Kern County Planning and Natural Resources Department and Kern County Public Works Department – Operations Division. b. A monthly report showing the tonnage and origin of inbound material shall be provided by the owner/operator of the project to the Kern County Public Works Department – Operations Division on or before the 15th day of the following month. c. With 30 days prior written notice, the owner/operator of the project will process up to 10% of the total permitted operating capacity of Acceptable Material, including Food Material, originating within the County that is received at any Kern County-operated facility and transported to Lost Hills Environmental Landfill and Composting by Kern County or its transportation contractors. The initial fee for processing such material shall be negotiated between the Kern County Public Works Department – Operations Division and the owner/operator prior to first delivery, not to exceed \$40.00/ton. The Kern County Public Works Department – Operations Division shall be invoiced monthly for the processing fee of materials sent to Lost Hills Environmental Composting Facility under this mitigation measure, and shall pay such invoices within 30 days thereof. On July 1, 2021, and each July 1 thereafter, the processing fee shall be adjusted by the annual percentage change in Consumer Price Index over the 12-month period ending on the immediately preceding March 31. The “Consumer Price Index” 	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>means Consumer Price Index, All Urban Consumers, Los Angeles-Riverside-Orange County, Series ID: CUURA421SA0, published by the Bureau of Labor Statistics. If that index is discontinued, the index that most closely approximates it shall be substituted. "Acceptable Material" means source separated green waste, wood waste, and/or manure, or any combination thereof, containing less than 1% by weight contamination, and no glass or hazardous material. "Food Material" means a waste material of plant or animal origin that results from the preparation or processing of food for animal or human consumption. Food Material includes, but is not limited to, waste from food facilities as defined in Health and Safety Code Section 113789 (such as restaurants), food processing establishments as defined in Health and Safety Code Section 111955, grocery stores, institutional cafeterias (such as, prisons, schools and hospitals), and residential food scrap collection. "Contamination" means any non-organic material, construction and demolition debris, biodegradable plastics that do not meet American Society for Testing and Materials (ASTM) D6400 or ASTM D6868 requirements, or material not meeting the definition of green waste, wood waste, food waste, or manure. The owner/operator may reject any load or portion thereof that does not constitute Acceptable Material or Food Material. Any ancillary fees, such as rejection fees, shall be payable in accordance with owner/operator's standard rates. The owner/operator shall notify the Kern County Public Works Department within 24 hours of ancillary fees being applied.</p> <p>d. The owner/operator may, in addition, increase the processing fee to pass through any (i) new or increased governmental fees, (ii) increased costs of operating the facility resulting from changes in law, and (iii) increased disposal costs, in each case that</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>become effective or occur after July 1, 2021. The owner/operator shall provide Kern County with 30 days' prior written notice of any such increase. Fees and costs of a general or facility-wide nature shall be allocated pro rata based on tonnage. Written notice shall include justification demonstrating how new or increased government fees and increased disposal costs create an increase in the processing fee.</p> <p>e. If the owner/operator agrees with another customer to process Acceptable Material over a period of 180 days or more for a fee less than the then-applicable processing fee, then, for each month the lower fee is provided to the other customer, the owner/operator shall credit Kern County an amount equal to (a) the monthly tons of Acceptable Material accepted from the other customer (or, if less, from Kern County) multiplied by (b) the difference between the then-applicable processing fee and the fee charged to the other customer. This credit shall be used to offset processing fees charged to Kern County Public Works Department – Operations Division, or other amounts payable by Kern County to the owner/operator.</p> <p>f. Kern County hereby imposes a host fee payable by the owner/operator of \$0.25 for each ton of out-of-County material of any type accepted at the composting facility. On July 1, 2021, and each July 1 thereafter, the host fee shall be adjusted by the annual percentage change in Consumer Price Index over the 12-month period ending on the immediately preceding March 31. The \$0.25 fee shall be directed to the General Fund for the Board-adopted Kern County Lost Hills Economic Opportunity Area (District 4) for use in that area for improvements to the community, including, but not limited to, street lights, park and library improvements, road infrastructure and improvements, community programs, nuisance abatement, and other community</p>	

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
		<p>benefits. Determination of the use of the money shall be as established by the Kern County Lost Hills Economic Opportunity Area map. This mitigation funding will not be affected or stopped by any declaration of a Fiscal Emergency by the Board of Supervisors that temporarily stops property and sales tax contributions to the fund, as mitigation funding shall continue to be collected and spent.</p> <p>g. Kern County hereby imposes a fee, payable by the facility's owner/operator, of \$100 per ton of disposed compost facility residual material to be paid to the Kern County Public Works Department to help fund additional recycling and diversion efforts to mitigate the increase in Kern Unincorporated disposal tonnage. Payment will be due to the Kern County Public Works Department at the end of each quarter based on the residual disposed of from the composting operation as reported to the State of California.</p>	
Impact 4.17-5: The project would comply with Federal, State, and local management and reduction statutes and regulations related to solid waste.	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
Impact 4.17-6: The project would contribute to cumulative impacts to utilities and service systems.	Less than significant (LDF)	No mitigation would be required.	Less than significant (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measures MM 4.6-7 (COM, BEF), MM 4.17-1 (BEF), MM 4.17-2 (COM), MM 4.17-3 (COM, BEF), and MM 4.17-4 (COM).	Less than significant (COM, BEF)
Wildfire			
Impact 4.18-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.	Less than significant (COM, BEF, LDF)	Implement Mitigation Measure MM 4.15-3 (COM, BEF).	Less than significant (COM, BEF, LDF)

Table 1-8 Summary of Impacts, Mitigation Measures, and Level of Impacts after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measure(s)	Level of Significance after Mitigation
Impact 4.18-2: The project would expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire due to slope, prevailing winds, and other factors.	Less than significant (COM, BEF, LDF)	No mitigation would be required.	Less than significant (COM, BEF, LDF)
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.	Less than significant (LDF)	Implement Mitigation Measure MM 4.8-6 (COM, BEF, LDF) .	Less than significant (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measures MM 4.8-5 (COM, BEF) and MM 4.8-6 (COM, BEF, LDF) .	Less than significant (COM, BEF)
Impact 4.18-4: The project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	Less than significant (LDF)	No mitigation would be required.	Less than significant (LDF)
	Potentially significant (COM, BEF)	Implement Mitigation Measure MM 4.6-7 (COM, BEF) .	Less than significant (COM, BEF)
Impact 4.18-5: The project would contribute to cumulative wildfire impacts.	Less than significant (LDF)	Implement Mitigation Measure MM 4.8-6 (COM, BEF, LDF) .	Less than significant (LDF)
	Significant and unavoidable (COM, BEF)	Implement Mitigation Measures MM 4.6-7 (COM, BEF) , MM 4.8-5 (COM, BEF) , and MM 4.8-6 (COM, BEF, LDF) .	Significant and unavoidable (COM, BEF)

1.11 Summary of Adopted Mitigation Measures for the H.M. Holloway Landfill Environmental Impact Report

The final Mitigation Monitoring and Reporting Program (MMMP) prepared for the 2017 Lost Hills Landfill Project is provided in **Table 1-9**, *Adopted MMMP – 2017 Lost Hills Environmental Landfill Project*, below. **Table 1-9** is a summary of the adopted mitigation measures and steps to compliance that have been previously implemented for the 2017 Lost Hills Landfill project.

Table 1-9 Adopted MMMP – 2017 Lost Hills Environmental Landfill Project					
Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
4.1	Air Quality				
#1 4.1-1	MM 4.1-1. Twelve EPA/CARB Tier-0 diesel engines used in existing shared offroad equipment for adjacent mining operations and disposal operations will be replaced with new less polluting EPA/CARB certified Tier-II engines. Written evidence of completion shall be submitted to the Kern County Planning Department.	Following certification of the EIR, and prior to commencement of operations permitted by planning approvals.	Kern County Planning Department		
		Steps to Compliance: A. The project applicant shall submit evidence of completion of the engine retrofits to the Kern County Planning Department.			
#2 4.1-2	MM 4.1-2. Heavy-duty diesel engine commercial vehicles will be required to comply with the CARB’s 5-minute idling limit Airborne Toxic Control Measure. When available, ultra low sulfur diesel fuel (15ppm) shall be utilized.	Prior to commencement of operations permitted by planning approvals.	Environmental Health Services Department (EHSD)		
		Steps to Compliance: A. The project applicant will specify to all waste stream transporters of the requirements to comply with CARB’s 5-minute idling limit while on the landfill and to utilize ultra-low sulfur diesel fuel when available. B. The project applicant will submit copies of these communications to EHSD to verify notification of the requirement has been completed. C. Random inspections during EHSD site inspections shall verify ongoing compliance.			
#3 4.1-4	MM 4.1-3. Dewatered Class A and B biosolids shall be placed in disposal pits along with an existing waste stream, such as fly ash, for codisposal. The biosolids will be disposed of, covered and compacted with a minimum 6 inches of soil material at the end of each working day in accordance with SJVAPCD Rule 4565. In the event of inclement weather conditions, biosolids will also be covered by the end of the day with a thin soil cover in accordance with SJVAPCD Rule 4565 until the material can be discharged to the biosolids disposal area.	Prior to commencement of operations permitted by planning approvals.	Environmental Health Services Department (EHSD) San Joaquin Valley Air Pollution Control District (SJVAPCD)		
		Steps to Compliance: A. The project applicant shall comply with these requirements on a daily basis when biosolids are accepted at the landfill. B. Inspections by EHSD and/or SJVAPCD will verify compliance on an ongoing basis.			

Table 1-9 Adopted MMMP – 2017 Lost Hills Environmental Landfill Project					
Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
#4 4.1-5	<p>MM 4.1-4. Monitoring of landfill gas emissions shall be in accordance with applicable regulatory requirements so as to determine when significant amounts of landfill gas are generated such that a landfill gas collection system is mandated. When biogas production becomes significant, as determined by the San Joaquin Valley Air Pollution Control District, (surface concentration greater than 500 ppmv) then a vapor collection and control system will be used to reduce biogas emissions. Biogas control systems typically consist of gas extraction wells and gas collection piping for transporting extracted gas to a facility for use as fuel or to a flare for incineration. The Project will design and install a landfill gas collection system approved by the appropriate regulatory agencies (Local Enforcement Agency, California Integrated Waste Management Board, San Joaquin Valley Air Pollution Control District).</p>	During Project operations permitted by planning approvals.	Environmental Health Services Department (EHSD)		
		<p>Steps to Compliance:</p> <ul style="list-style-type: none"> A. The project applicant shall develop a plan to monitor landfill gas emissions in accordance with all applicable regulatory requirements. B. The monitoring plan shall be submitted to EHSD for approval. C. Upon plan approval, the project applicant shall begin monitoring as required and submit monitoring reports to EHSD to verify compliance with these requirements. 			
#5 4.1-5	<p>MM 4.1-5. (a) The Project will install an onsite flare in accordance with all applicable regulatory requirements to combust the 75% of landfill gas emissions captured by the landfill gas collection system. The onsite flare will have a destruction efficiency of 99%.</p> <p>(b) After project commencement, the project proponent shall become a “Forest Founder” of the Tree Foundation of Kern and/or the Kern River Parkway Foundation or use some other appropriate planting organization. Use of an appropriate planting organization will ensure the long term maintenance to maturity of the trees. The applicant shall purchase 671 trees at \$ 50 per tree to be planted over the next three years at a minimum of 224 trees per year until completion. The applicant shall provide appropriate documentation regarding the organization, the plan for tree planting and completion of the purchase of the tree planting.</p>	Upon confirmation by on site monitoring, when biogas production results in a surface concentration greater than 500 ppmv.	San Joaquin Valley Air Pollution Control District (SJVAPCD) Environmental Health Services Department (EHSD)		
		<p>Steps to Compliance:</p> <ul style="list-style-type: none"> A. The project applicant will apply for Authority to Construct (ATC) permits for this stationary source equipment, and notify EHSD upon reaching the specified surface concentration level. B. Upon issuance of the ATC, the project applicant will install the specified equipment. C. Upon completion of installation, and testing, the project applicant will submit copies of the Permit to Operate to the EHSD to verify compliance. 			
#6 4.1-7	<p>MM 4.1-6. Unpaved roads shall be watered to reduce fugitive dust emissions. Wet suppression of unpaved road dust, conducted in accordance with procedures recommended in SJVAPCD</p>	Prior to commencement of operations permitted by planning approvals.	San Joaquin Valley Air Pollution Control District (SJVAPCD)		

Table 1-9 Adopted MMMP – 2017 Lost Hills Environmental Landfill Project					
Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
	Regulation – VIII will reduce unpaved roads dust by 50% (URBEMIS recommended control efficiency). Compliance with other requirements in Regulation – VIII will result in additional unquantified reductions in fugitive dust emissions.	Steps to Compliance: A. The project applicant shall prepare and implement provisions of a fugitive dust control plan to control dust from unpaved roads. Control methods shall be by water or application of an approved dust suppressant and will comply with the applicable requirements of Regulation - VIII which shall be reflected in the Developer Mitigation Contract specified in Mitigation Measure 4.1-7 below. B. The project applicant shall comply with the applicable monitoring, record keeping and reporting requirements of Regulation - VIII.			
#7 4.1-20	MM 4.1-7. Prior to commencement of operations permitted by planning approvals, the applicant shall enter into an Development Mitigation Contract with the San Joaquin Valley Air Pollution Control District to help offset 41.93 tons of NO _x , 12.74 tons of ROG, and 64.41 tons of PM ₁₀ . The applicant shall pay \$69,440 per year for the life of the operation of the project to help mitigate air impacts and their associated health affects. The contract and first installment shall be accomplished prior to commencement of operations and annually from that date thereafter. A copy shall be submitted to the Kern County Planning Department prior to commencement of operations and annually after that.	Prior to commencement of operations permitted by planning approvals.	San Joaquin Valley Air Pollution Control District (SJVAPCD) Kern County Planning Department		
Steps to Compliance: A. Kern Country shall determine the extent of reduction which is economically and reasonably feasible as defined in Public Resources Code Section 21061.1. B. The Kern County Planning Department will submit a letter to the SJVAPCD providing its determination of the extent of reduction which was found to be economically and reasonably feasible. C. The project applicant will execute a DMC prior to commencement of operations permitted by planning approvals. D. The project applicant will provide a copy of the executed agreement to the Kern County Planning Department. E. SJVAPCD shall provide copies of implementing reports to the Kern County Planning Department to substantiate compliance.					
Justification: The proposed project has the potential to impact air quality due to: <ul style="list-style-type: none"> Emissions of ozone precursors (NO_x, VOC) from Project operation of offroad mobile source equipment, onroad material transport, biosolids disposal, landfill gas generation, and from the overall operation of the Project, Fugitive particulate matter emissions from offroad disposal activities, from the operation of the Project, The operational impacts to air quality will remain significant and unavoidable for emissions of NO_x, VOC, and PM₁₀. All feasible and reasonable changes or alterations have been required, or incorporated into the Project that substantially lessen the potentially significant effects as identified in the Final EIR. 					

Table 1-9 Adopted MMMP – 2017 Lost Hills Environmental Landfill Project					
Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
4.2	Biological Resources				
#8 4.2-1	<p>MM 4.2-1.</p> <p>a) Project work areas subject to disturbance will be limited to the area that has been evaluated during the biological reconnaissance survey and the boundaries of all work areas will be clearly delineated in the field. The area surveyed included all areas not currently being used for disposal activities within the Project area and an approximately 200-foot buffer. All H. M. Holloway employees and any subcontractor doing work within the permit area will be informed of the project perimeter of the area surveyed.</p> <p>b) Prior to new ground disturbing activities outside of the proposed fenced area and for activities conducted within the additional marshalling and stockpiling area a pre-activity survey will be performed by a qualified biologist not more than 14 days prior (see Figure 3-7). If, during those surveys, resources that have been evaluated in this report are found, necessary and applicable measures will be implemented to avoid/minimize potential impacts. A copy of the pre-activity survey report, which includes delineation of survey areas and pertinent Project features, shall be submitted to the Planning Department prior to initiating new ground disturbing activities outside the fenced area, or within the marshalling and stockpiling area. If sensitive biological resources are identified that have not been evaluated, all activities will be temporarily stopped and California Department of Fish and Game (CDFG) and/or United States Fish and Wildlife Service (USFWS) will be consulted as appropriate to determine what additional measures may be required to avoid impacts to such species.</p> <p>c) Annual surveys for potential nest sites in the permit area shall be conducted prior to nesting season</p>	<p>Prior to commencement of operations permitted by planning approvals, and during subsequent operations.</p>	<p>Kern County Planning Department Environmental Health Services Department (EHSD)</p>		
		<p>Steps to Compliance:</p> <p>A. The project applicant shall clearly delineate all work areas in the field prior to commencement so that required biological surveys can be conducted in the areas that will be disturbed, and workers will be aware of designated work area limits.</p> <p>B. The project applicant will be responsible for conducting periodic biological surveys to ensure that no listed species will be adversely impacted by the ongoing waste disposal operations. Pre-activity survey reports and periodic biological monitoring reports shall be provided to the Kern County Planning Department upon their completion.</p> <p>C. Should sensitive biological resources be identified that have not been evaluated, the project applicant will temporarily stop activities in the area of discovery until the California Department of Fish and Game, and United States Fish and Wildlife Service can be consulted on what additional measures may be required to avoid impacts. Such instances of discovery shall be promptly reported to the Kern County Planning Department.</p> <p>D. The project applicant shall submit plans for the perimeter fencing to EHSD for approval. Upon obtaining EHSD’s approval, the project applicant shall construct the fence in accordance with the approved plans.</p> <p>E. The project applicant will be responsible for submitting a letter of completion to the Kern County Planning Department regarding installation of the barbed wire fence around the permit area including installation of the hardware cloth.</p> <p>F. The project applicant will implement a 15 mile per hour speed limit on all non-public roads within the permit area. Signs shall be posted, and employee training shall be conducted to this effect.</p> <p>G. The project applicant will be responsible for implementing the initial awareness training program for all employees including advising contractors to be aware of the potential presence of listed species and to take every precaution to avoid any adverse impacts. Training logs will be kept on file at the H.M. Holloway Gypsum Mine office and will available for review/verification upon request.</p>			

Table 1-9 Adopted MMMP – 2017 Lost Hills Environmental Landfill Project					
Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
	<p>(December/January). All banks will be evaluated for potential nesting opportunities, such as crevices or shelves. In the event that any nesting material is found, it will be promptly removed and any potential nesting cavities filled in or removed to discourage nesting within the active permit area. In the event that actively nesting birds are found within the permit area, nests, eggs, and young will be avoided until the young have fledged unless appropriate permits are obtained. As discussed below, all employees and contractors will be subject to a Sensitive Species Training Program. A qualified biologist will be retained to make a determination as to when fledging has occurred. Alternatively, the site could be evaluated the following December/January during the annual survey for potential nest sites to determine a course of action.</p> <p>d) A barbed wire fence will be placed around all the receiving pits with and along the Solid Waste Facility Permit Area at the direction of the owner/operator and Local Enforcement Agency (LEA) (see Figure 4.2-1 for preliminary location and alignment). The final location of the perimeter fencing shall be as approved by and on file with the LEA in plans submitted by the applicant. Fencing surrounding the active areas of the permit area will include small-mesh (1/4 inch diameter or smaller) exclusion fencing installed from 6 inches below ground level to at least 24 inches above grade to discourage wildlife from accessing the work areas.</p> <p>e) A 15 mile-per-hour speed limit will be implemented on any non-public roads within the permit area.</p> <p>f) <i>Sensitive Species Training Program:</i> As part of H. M. Holloway's Safety Training all employees and contractors will be trained to be aware of listed species which may be present and how to avoid impacts to them. Initial awareness training will be followed up by yearly refresher training. Firearms and pets are prohibited</p>				

Table 1-9 Adopted MMMP – 2017 Lost Hills Environmental Landfill Project					
Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
	from the permit area. All food-related trash such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and regularly removed from the permit area. No deliberate feeding of wildlife will be allowed. If any listed species are observed within the permit area boundaries, a qualified biologist will be contacted to assist with avoidance of the species.				
#9 4.2-1	MM 4.2-2. Prior to the installation of fencing, all potential kit fox dens as identified in the biological reconnaissance report will be monitored and excavated per “USFWS Standardized Recommendations for the Protection of San Joaquin Kit Fox Prior to or During Ground Disturbance” (Standardized Recommendations) (USFWS 1999). Six potential kit fox dens were observed in the additional marshalling and stockpiling area (see Figure 4.2-2). If the status of any of the identified potential kit fox dens changes to “known” or “suspected pupping” den, the appropriate buffer as described in the Standardized Recommendations will be established around any such den and the USFWS and CDFG will be contacted for further guidance prior to fencing the site. No excavation or other disturbance of known or suspected pupping dens should occur without contacting USFWS and CDFG and obtaining the appropriate permits.	Prior to construction of the perimeter boundary fencing.	Kern County Planning Department		
		Steps to Compliance: A. The project applicant shall monitor all potential kit fox dens identified in the biological reconnaissance report, and excavate the dens in accordance with USFWS’s Standardized Recommendations. B. The project applicant will submit the kit fox den monitoring report to the Kern County Planning Department to demonstrate compliance with this mitigation measure.			
#10 4.2-1	MM 4.2-3. a) Occupied burrows should not be disturbed during the nesting season (February 1 through August 31), unless a qualified biologist approved by CDFG verifies through non-invasive methods that either: 1) the birds have not begun egg-laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Refer to Mitigation Measure 4.2-1(B) for a discussion on pre-activity surveys. b) The proposed Project is in a highly disturbed area. Burrowing owls have been observed in this area in close proximity to and within existing facilities and disturbed	Prior to commencement of operations permitted by planning approvals, and during subsequent operations.	Kern County Planning Department		
		Steps to Compliance: A. The project applicant will be responsible for advising employees and contractors of these burrowing owl mitigation measures. These mitigation measures will be implemented and conducted under the direct supervision of a qualified biologist. An initial biological survey report shall be filed with the Kern County Planning Department regarding disturbance or destruction of occupied burrowing owl burrows. Annual monitoring of any artificial burrows shall be included in an annual biological compliance report and filed with the Kern County Planning Department.			

Table 1-9 Adopted MMMP – 2017 Lost Hills Environmental Landfill Project					
Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
	<p>areas. Therefore, if active burrowing owl burrows are observed, during the annual biological surveys, or at other times during site operations by site personnel (refer to mitigation measure 4.2-1(F), they should be avoided as follows: a) during nesting season (February 1 through August 31), burrows should be avoided by up to 250 feet, taking into consideration the distance to the closest existing disturbance or facility (e.g. roads); and, b) outside of nesting season, burrows should be avoided by up to 160 feet, taking into consideration the distance to the closest existing disturbance or facility. No new disturbance should occur within 160 feet of occupied burrows during the non-breeding season of September 1 through January 31 or within 250 feet during the breeding season of February 1 through August 31. Due to the highly disturbed nature of the permit area and the areas adjacent to owl burrows, additional preservation of foraging habitat is not recommended.</p> <p>c) When destruction of occupied burrows is unavoidable, existing unsuitable (not of the correct size or shape for owl utilization) burrows within H. M. Holloway land holdings but outside of and protected from landfilling activities should be enhanced (enlarged or cleared of debris) or new burrows created (by installing artificial burrows) at a ratio of 2:1 in adjacent suitable habitat that is contiguous with the foraging habitat of the affected owls. Artificial burrows should follow CDFG recommended design or be approved by CDFG if an alternative design is used. Burrow enhancement or creation should be conducted in adjacent habitat outside of disposal areas controlled by H. M. Holloway and should be in areas that can be protected from surface-disturbing activities by a minimum of 6.5 acres per burrow. If owls must be moved away from the disturbance area, passive relocation [as described in CDFG's "Staff Report on Burrowing Owl Mitigation" (1995)] should be implemented. A time period of at least</p>				

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	<p>one week is recommended to allow the owls to move and acclimate to alternate burrows. Relocation of owls should only be implemented during the non-breeding season.</p> <p>d) Artificial burrows should be monitored for use during the annual surveys described in Mitigation Measure 4.2-1.</p>				
<p>Justification: The Project has the potential to impact federal and state listed plant or animal life, and special-status species during Project operations. Changes in or alterations have been incorporated into the Project that substantially lessen the potentially significant effects as identified in the Final EIR, so that environmental effects after such mitigation are reduced to a less than significant level.</p>					
4.3	Cultural Resources				
#11 4.3-1	<p>MM 4.3-1. In the event of an inadvertent discovery of a cultural resource during excavation and grading, the following mitigation measures shall apply:</p> <p>a) If human remains are found during construction, CEQA requires that further work or disturbance of the site be halted. The discovery will be inspected and the remains be handled in a manner consistent with Public Resources Code 5097.98-99, Health and Safety Code 7050.5, and CEQA Section 15064.5.</p> <p>b) In the event any as yet undetected (i.e. buried) cultural or paleontological resources are encountered on the Project site at a future time, a qualified archaeologist or paleontologist shall be contacted to evaluate the find in conformance with 15064.5 of CEQA.</p>	<p>During Project operations permitted by planning approvals.</p>	<p>Kern County Planning Department</p>		
		<p>Steps to Compliance:</p> <p>A. This measure will be included as a condition of approval in the CUP. The project applicant shall include these requirements in project plans and specifications, and environmental awareness training used by operations staff and contractors.</p>			
<p>Justification: The Project has the potential to impact cultural resources during Project operations. Changes in or alterations have been incorporated into the Project that substantially lessen the potentially significant effects as identified in the Final EIR, so that environmental effects after such mitigation are reduced to a less than significant level.</p>					

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Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
4.5	Hazards And Hazardous Materials				
#12 4.5-1	MM 4.5-1. All hazardous materials such as diesel fuel, oils, lubricants, and hydraulic fluids shall be stored properly and Material Safety Data Sheets shall be on site. Hazardous waste shall be managed properly. Training shall be provided to all personnel involved in handling of hazardous materials/waste.	During Project operations permitted by planning approvals.	Environmental Health Services Department (EHSD)		
		Steps to Compliance: A. Inspections and monitoring would be conducted by the EHSD.			
#13 4.5-2	MM. 4.5-2. All wastes (dewatered Class A and B biosolids, spent sandblast media, cogeneration ash (fly ash), treated auto shredder waste and lime filter cake) shall be evaluated prior to receipt to ensure that only non-hazardous waste is accepted at the proposed facility. In the case of any hazardous waste detection, during either normal testing procedures or special checking of loads, the following procedures will be strictly adhered to in order to minimize contamination: a) Immediately after discovery of the contaminated material, all key personnel will be properly dressed and equipped to handle the material, and a decontamination area set up. b) The limits of the suspected contaminated material will be delineated and the waste segregated from all non-hazardous waste streams. c) The suspected material will then be moved to a specially assigned remote or isolated area of the pit and marked. d) There, in isolation, the material will be retested to confirm contamination. e) Upon confirmation of the presence of any hazardous material, the source of the contaminated waste will then be notified for the material's proper and immediate removal to a correctly classified landfill. The LEA and the Regional Water Quality Control Board will be immediately notified of the incident.	Prior to commencement of operations permitted by planning approvals, and during subsequent operations.	Environmental Health Services Department (EHSD) Regional Water Quality Control Board (RWQCB)		
		Steps to Compliance: A. Inspections and monitoring would be conducted by the EHSD or RWQCB as appropriate.			
#14 4.5-2	MM 4.5-3. This facility shall only accept dewatered Class A and B biosolids, treated auto shredder waste, cogeneration ash (fly ash), spent sandblast media and lime filter cake. Verification must be obtained from the State (CIWMB) of a solid waste facilities permit	Prior to commencement of operations permitted by planning approvals, and during subsequent operations.	Environmental Health Services Department (EHSD) Kern County Planning Department		

Table 1-9 Adopted MMMP – 2017 Lost Hills Environmental Landfill Project					
Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
	that is not subject to the State’s Disposal Reporting System or an exemption to disposal reporting criteria of these wastes must be submitted to the LEA and the Planning Department prior to acceptance of waste. Acceptance of the following waste streams, (shredded auto tires, concrete/cement rubble, designated asphalt products and chipped construction lumber) shall be prohibited either for disposal or for beneficial use. A Loadcheck Program, as required by Title 27 and Title 14, [Quality Assurance/Quality Control Program Plan] shall also be developed and submitted to the Local Enforcement Agency for approval prior to the acceptance of waste. The Loadcheck program and quality assurance/quality control program will be submitted to the Planning Department after LEA approval.	<p>Steps to Compliance:</p> <ul style="list-style-type: none"> A. The restriction to accept only five waste streams, biosolids, treated auto shredder waste, cogeneration ash (fly ash), spent sandblast media, and lime filter cake, for disposal shall be included as a condition of approval in the CUP. Inspections and monitoring would be conducted by the EHSD. B. The Project applicant will consult with the CIWMB regarding the five waste streams (biosolids, treated auto shredder waste, cogeneration ash (fly ash), spend sandblast media and lime filter cake) that are not currently recycled or normally disposed of in Class III landfills in Kern County (a practice not likely to change in the near future), being subject to the Disposal Reporting System (DRS) and determine whether 1) an exemption from disposal reporting can be obtained, or 2) a solid waste facilities permit can be obtained that is not subject to disposal reporting. C. Submit the CIWMB approved DRS exemption to the LEA and the Planning Department prior to acceptance of waste. D. The prohibition from accepting four of the waste streams, shredded auto tires, concrete/cement rubble, designated asphalt products, and chipped construction lumber, for disposal or for beneficial use shall be included as a condition of approval in the CUP. Inspections and monitoring would be conducted by the EHSD. E. The LoadCheck Program portion of this measure will be included as a condition of approval in the CUP. Inspections and monitoring would be conducted by the EHSD. F. Following LEA approval, the Loadcheck Program will be submitted to the Kern County Planning Department. 			
#15 4.5-2	MM 4.5-4. A revised, Project-specific, site health and safety plan shall be provided to the Local Enforcement Agency for approval prior to acceptance of waste.	Prior to commencement of operations permitted by planning approvals, and during subsequent operations.	Environmental Health Services Department (EHSD)		
		<p>Steps to Compliance:</p> <ul style="list-style-type: none"> A. This measure will be included as a condition of approval in the CUP. Inspections and monitoring would be conducted by the EHSD. 			

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Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
#16 4.5-3	MM 4.5-5. The Project shall provide a worker changing facility (see Section 3.3.2). This facility will provide an area where all workers will be required to remove used Personal Protective Equipment (PPE) prior to leaving the biosolids landfill area, and where people entering the facility will have to change into their PPE stored at the worker changing facility. The provision of the worker changing facility is to provide hygienic conditions to protect the safety of the workers while preventing the use of work clothes and boots outside of the biosolids work environment. The changing facility will include portable toilet and washing facilities, and a boot rinsing area for the workers.	Prior to commencement of biosolids disposal operations permitted by planning approvals, and during subsequent biosolids disposal operations.	Environmental Health Services Department (EHSD)		
		Steps to Compliance: A. The project applicant will provide proposed plans for the mobile worker changing facility to the EHSD for approval. B. Upon receipt of EHSD approval, the proposed facility shall be provided and maintained.			
#17 4.5-4	MM 4.5-6. a) To prevent and avoid any future impacts to the integrity of the well casing and soil column, the established 50-foot diameter existing soil column buffer around the plugged and abandoned oil well will be marked and maintained for future operations. Wastes will be disposed of up against this soil buffer, such that no voids would occur. The buffer will be periodically inspected to confirm that its integrity has not been compromised during operations. An initial inspection will be scheduled with DOGGR staff prior to April 15, 2008. b) In the event that any structures will be built by the Project within the buffer zone with the potential to impact the two plugged and abandoned oil wells (API # 09261186 and API # 02935128) the Bakersfield Office of the Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) shall be contacted to inspect the wells and to recommend and approve any remediation required.	Prior to commencement of operations permitted by planning approvals, and during subsequent operations.	Division of Oil, Gas and Geothermal Resources (DOGGR)		
		Steps to Compliance: A. Part (a) of this measure will be included as a condition of approval in the CUP. The well's location and 50-foot buffer shall be noted in any project plans and maps. The project applicant shall include these requirements in project plans and specifications used by operations staff and contractors. Inspections and monitoring will be conducted by the DOGGR. B. Part (b) of this measure will be included as a condition of approval in the CUP. The well locations shall be noted in any project plans and maps. The project applicant shall include these requirements in project plans and specifications used by operations staff and contractors. Inspections and monitoring will be conducted by the DOGGR.			
# 18 4.5-5	MM 4.5-7. If during grading, excavation or any other activity, any plugged and abandoned or unrecorded wells are uncovered or damaged, the Bakersfield office of the Department of Conservation/Division of Oil, Gas, and Geothermal Resources	Prior to commencement of operations permitted by planning approvals, and during subsequent operations.	Division of Oil, Gas and Geothermal Resources (DOGGR)		

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Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
	shall be contacted to inspect the well and to approve any remediation required. Should remedial actions be required, the applicant will be responsible for implementing the Department-required corrective action.	Steps to Compliance: A. This measure will be included as a condition of approval in the CUP. The project applicant shall include these requirements in project plans and specifications used by operations staff and contractors. Inspections and monitoring will be conducted by the DOGGR.			
#19 4.5-6	MM 4.5-8. Dewatered Class A and B biosolids shall be disposed in the Pit “G” and Pit “F/G Connection Area” only.	Prior to commencement of operations permitted by planning approvals, and during subsequent operations.	Environmental Health Services Department (EHSD)		
		Steps to Compliance: A. This measure will be included as a condition of approval in the CUP. Inspections and monitoring will be conducted by the EHSD.			
#20 4.5-8	MM 4.5-9. The applicant shall, prior to initiation of Project operations, submit an Integrated Pest Management (IPM) Plan for approval by the Kern Mosquito and Vector Control District and the Kern County Environmental Health Services Department. The Integrated Pest Management (IPM) Plan shall be designed to use good housekeeping practices as the primary tool. The Integrated Pest Management (IPM) Plan shall include (but not be limited to) measures to combat vector infestation by ensuring good drainage of biosolids areas, frequent flushing, clean-up and maintenance of biosolids disposal edges, and prompt repair of leaking leachate system and rinsate system pipes and equipment. Secondary measures to be included in the IPM Plan are, as needed, biological controls including (but not limited to) the use of parasitic beetles and mites (to control egg and larvae populations) and parasitic wasps (to control fly pupae populations). When housekeeping and biological controls prove ineffective, or have provided limited effectiveness, chemicals (i.e., pesticides) may supplement the program. When chemicals are used, special care shall be taken to select and apply chemicals that are compatible with existing biological controls (i.e., those that do not kill parasitic wasps). These chemicals will be used only as necessary and in compliance with Federal and State laws and regulations regarding pesticides	Prior to commencement of biosolids disposal operations permitted by planning approvals, and during subsequent operations.	Environmental Health Services Department (EHSD) Kern Mosquito and Vector Control District (KMVCD)		
		Steps to Compliance: A. This measure will be included as a condition of approval in the CUP. Inspections and monitoring will be conducted by EHSD or KMVCD as appropriate.			

Table 1-9 Adopted MMMP – 2017 Lost Hills Environmental Landfill Project					
Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
	<p>storage, application, and disposal. Chemicals classified as restricted materials will be applied only under permits issued by the Kern County Agricultural Commissioner. Bulk pesticides will be applied only by a State-licensed Pesticide Applicator. Insecticides will be prepared and applied in conformance with practices recommended by the University of California Cooperative Extension.</p> <p>The Integrated Pest Management Plan (IPMP) shall contain a record-keeping protocol, which shall be followed and records kept on site and available upon request by the Kern County Vector and Mosquito Abatement District and Environmental Health Services (EHS).</p>				
#21 4.5-9	<p>MM. 4.5-10. The Report of Disposal Site Information shall include a litter control program for the facility. The litter control program shall include disposal vehicle inspections, frequency and distance from entrance gate for roadside litter removal. This program shall be approved by the County Environmental Health Services Department prior to commencement of operations.</p>	<p>Prior to commencement of operations permitted by planning approvals, and during subsequent operations.</p>	<p>Environmental Health Services Department (EHSD)</p>		
		<p>Steps to Compliance:</p> <p>A. The project applicant’s proposed litter control program shall be specified in the Report of Disposal Site Information submitted to EHSD for approval.</p> <p>B. The project applicant shall implement the provisions of the litter control program during Project operations.</p> <p>C. Inspections and monitoring would be conducted by the EHSD.</p>			
#22 4.5-10	<p>MM 4.5-11. As part of the Report of Disposal Site Information (RDSI), the applicant shall develop Standard Operating Procedures for extreme weather in consultation with County Environmental Health Services Department. The Procedures will define how operations will be modified or curtailed during high winds and low visibility conditions.</p>	<p>Prior to commencement of operations permitted by planning approvals, and during subsequent operations.</p>	<p>Environmental Health Services Department (EHSD)</p>		
		<p>Steps to Compliance:</p> <p>A. The project applicant shall develop proposed Standard Operating Procedures for extreme weather in the Report of Disposal Site Information in consultation with EHSD.</p>			

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Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
		B. Upon approval of the Report of Disposal Site Information, the project applicant shall incorporate these provisions into the landfill facility’s health and safety plans, and implement them during extreme weather events. C. Inspections and monitoring would be conducted by EHSD.			
<p>Justification: The Project has the potential to impact hazards and hazardous materials during Project operations. However, the non-compete covenant clause of the Certificates of Participation apparently prevents the Board of Supervisors from approving any private landfill that would be capable of competing with the County’s landfill system for disposal of waste. This clause prohibits four (4) of the waste streams. Also, the Project is required to obtain either an exemption from the CIWMB that five of the waste streams will not be subject to the State’s Disposal Reporting System, or a solid waste facilities permit that would not be subject to disposal reporting, so there would not be any significant impacts to the County’s diversion goals under AB 939. Changes in or alterations have been incorporated into the Project that substantially lessen the potentially significant effects as identified in the Final EIR, so that environmental effects after such mitigation are reduced to a less than significant level, except for the cumulative impacts of vectors. These cumulative vector impacts remain significant and unavoidable.</p>					
4.6	Hydrology and Water Quality				
#23 4.6-1	<p>MM 4.6-1.</p> <p>a) The proposed Project waste streams cannot be subject to the disposal reporting systems. The Project must demonstrate that it meets the applicable state regulations for waste landfill siting, geologic criteria and construction standards to both the Regional Water Quality Control Board and the Local Enforcement Agency. A Report of Waste Discharge must be submitted to the Regional Water Quality Control Board for approval of Waste Discharge Requirements. The Local Enforcement Agency must also approve the construction standards for the facility. Such requirements must be issued prior to acceptance of waste at the facility.</p> <p>b) The requirements will include the installation and operation of a leachate recovery system and monitoring wells located and designed in accord with RWQCB standards.</p>	<p>Prior to commencement of operations permitted by planning approvals, and during subsequent operations.</p>	<p>Regional Water Quality Control Board (RWQCB) Environmental Health Services Department (EHSD)</p>		
<p>Steps to Compliance:</p> <p>A. The project applicant shall submit a Report of Waste Discharge to the RWQCB for subsequent issuance of Waste Discharge Requirements (WDR) and provide evidence to EHSD of such submittal.</p> <p>B. The project applicant shall submit copies of the WDR to the Kern County Planning Department to demonstrate that all the applicable waste landfill siting, geologic, and construction standards have been met.</p> <p>C. Leachate collection and recovery system project plans shall be submitted to the RWQCB and EHSD for approval. Evidence of the RWQCB’s and EHSD’s approval shall be provided to the Planning Department.</p> <p>D. Leachate management would be conducted in compliance with all regulatory requirements. Copies of all required sampling, analysis and reuse/disposal of leachate shall be provided to the Planning Department and EHSD.</p> <p>E. The project applicant shall perform quarterly sampling and analysis of the groundwater monitoring well network, the results of which will be included in the annual report submitted</p>					

Table 1-9 Adopted MMMP – 2017 Lost Hills Environmental Landfill Project					
Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
		to the RWQCB, the Kern County Planning Department, and the EHSD. Inspections and monitoring will be conducted by the RWQCB and the EHSD.			
#24 4.6-1	<p>MM 4.6-2. The Project must incorporate the following design and operational features to mitigate the potential for groundwater degradation from truck and equipment rinse-out: Biosolids delivery trucks and Project equipment leaving the biosolids deposition area must be rinsed prior to reaching a public road. Rinse facility design shall include:</p> <ul style="list-style-type: none"> • A surfaced and curbed facility containment area. • A mobile or skid-mounted high pressure water or steam cleaning wash rack system • A rinsate recirculation storage tank • Provision for disposal of rinsate and rinsate solids <p>Final design features of, and operational procedures for the rinsate facility must be approved by the Local Enforcement Agency prior to initiation of biosolids disposal.</p>	<p>Prior to commencement of biosolids disposal operations permitted by planning approvals, and during subsequent biosolids disposal operations.</p>	<p>Environmental Health Services Department (EHSD) Regional Water Quality Control Board (RWQCB)</p>		
<p>Steps to Compliance:</p> <p>A. The project applicant shall submit proposed plans and operational procedures for the rinsate facility to the EHSD for approval.</p> <p>B. Upon EHSD approval, the project applicant shall provide the specified facility and equipment.</p> <p>C. Rinsate wastewater sampling, analysis and reporting shall be in accordance with the Project’s revised Waste Discharge Requirements, and associated sampling and reporting program. Copies of submittals shall also be provided to the Planning Department and EHSD. Inspections and monitoring will be conducted by the EHSD and RWQCB as appropriate.</p>					
<p>Justification: The Project has the potential to impact hydrology and water quality during Project operations. Changes in or alterations have been incorporated into the Project that substantially lessen the potentially significant effects as identified in the Final EIR, so that environmental effects after such mitigation are reduced to a less than significant level.</p>					
4.8	Transportation and Traffic				
#25 4.8-1	<p>MM 4.8-1. To improve Holloway Road, the applicant will be responsible for a proportionate share of the costs to improve the full-width of the road to Highway 46 based on the increase in truck traffic volumes generated by this Project. Costs are \$96,460.00 (based on 1,378 tons of material) as calculated by the Kern County Roads Department and paid prior to implementation of the Project.</p>	<p>Prior to commencement of operations permitted by planning approvals.</p>	<p>Kern County Roads Department</p>		
<p>Steps to Compliance:</p> <p>A. This measure will be included as a condition of approval in the CUP.</p>					

Table 1-9 Adopted MMMP – 2017 Lost Hills Environmental Landfill Project					
Impact	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Date	Initials
		B. This measure will be monitored by the Kern County Roads Department. Kern County Roads Department will notify the Kern County Planning Department upon receipt of required funds.			
#26 4.8-3	MM 4.8-2. The Project applicant will consult with Caltrans to develop plans to install a temporary deceleration lane for west-bound traffic on State Route 46 to make right turns onto Holloway Road, as well as a temporary acceleration lane for west-bound traffic to make right turns onto State Route 46 from Holloway Road. The applicant will install these improvements per the approved plans and to the satisfaction of Caltrans prior to commencement of increased waste deliveries. These improvements will provide for improved safety at the Holloway Road/State Route 46 intersection on an interim basis until the State Route 46 4-Lane widening project is completed.	Prior to commencement of operations permitted by planning approvals.	Caltrans Kern County Roads Department		
		Steps to Compliance: A. This measure will be monitored by Caltrans and the Kern County Roads Department. B. Upon completion of Caltrans consultation, the project applicant will notify the Kern County Roads Department and Kern County Planning Department of the results and definition of scope for the required work.			
Justification: The Project has the potential to impact transportation and traffic during Project operations. Changes in or alterations have been incorporated into the Project that substantially lessen the potentially significant effects as identified in the Final EIR, so that environmental effects after such mitigation are reduced to a less than significant level.					

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2.1 Intent of the California Environmental Quality Act

The Kern County Planning and Natural Resources Department (Kern County), as Lead Agency, has determined, based on preliminary analysis in an Initial Study (included as Appendix A), an environmental impact report (EIR) is the appropriate environmental analysis document pursuant to the California Environmental Quality Act (CEQA) for the proposed Lost Hills Composting and Bioenergy Project (project). The project area is situated on a 136.2-acre portion of the existing 331-acre Lost Hills Environmental Industrial Landfill that has reached capacity. The project area is identified as Kern County Assessor's Parcel Numbers (APNs) 057-220-16, 057-240-29, 057-240-50, and 057-240-60, located on two adjacent sites separated by Holloway Road in the unincorporated area of northwestern Kern County. The first site (Site A) is an existing Class III non-hazardous industrial waste landfill facility located at 14045 Holloway Road on the west side of Holloway Road at the G P Road junction. The second site (Site B) is an equipment staging and storage lot on the east side of Holloway Road, north of G P Road. The Cities of Delano and Shafter are 25 miles northeast and 27 miles southeast, respectively. Two State Highways (State Route [SR-] 46 and SR-33) are located 1.6 miles south and 6.4 miles west, respectively, from the project site. Interstate 5 (I-5) is located approximately 5 miles east of the project site. Land within the project vicinity is generally characterized as a sparsely developed, rural, agricultural area located in western Kern County.

Lost Hills Environmental, LLC (project proponent) owns and operates the existing landfill, which has been in operation since 1997, of which approximately 331 acres are currently included within the Conditional Use Permit (CUP) No. 9, Map 28 boundary. Site A is located within CUP No. 9, Map 28 and no boundary changes are proposed to CUP No. 9, Map 28. Lost Hills Environmental, LLC owns Site B and utilizes the site for equipment staging and storage for the H.M. Holloway Gypsum Mine. Site B is currently included within CUP No. 1, Map 28. The project proponent has requested 6 acres comprising Site B be removed from CUP No. 1, Map 28, and a new CUP be issued to allow for construction and operation of a waste-to-energy bioenergy facility.

As discussed in more detail in the following sections, the project proponent is requesting the following discretionary actions from Kern County:

- (a) **Modification No. 1, CUP #1, Map 28:** Amendment to the boundaries of CUP #1, Map 28 of the existing mining facility to remove 6 acres, which will become the location for the proposed bioenergy facility.

- (b) **Issuance of CUP #13, Map 28:** Establishment of a new CUP that would facilitate the construction of a 3-MW (net) bioenergy facility.
- (c) **Modification No. 2, CUP #9, Map 28:** Amendment to CUP #9, Map 28 of the existing Class III Non-Hazardous Industrial Waste Landfill to include:
- a revision in the allowable waste streams permitted at the landfill to allow the acceptance and disposal of various materials; and
 - a revision to allow for an increase in permitted hours of operation and construction and operation of an eASP composting facility sited on 136.2 acres within the current permitted landfill facility boundary. Material accepted for composting at the facility would include biosolids, green waste, food waste, manure, and wood waste, for a total 640,000 TPY.

2.1.1 Purpose of the California Environmental Quality Act Process

This EIR has been prepared pursuant to the following relevant State and County statutes and guidelines:

- CEQA (California Public Resources Code [PRC], Section 21000 et seq.);
- State CEQA *Guidelines* (California Code of Regulations [CCR], Title 14, Chapter 3, Section 15000 et seq.); and
- Kern County CEQA Implementation Document (2004).

The overall purposes of CEQA are to:

- inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities;
- identify the ways that environmental damage can be avoided or significantly reduced;
- prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved (State CEQA *Guidelines* Section 15002).

2.2 Purpose of this Environmental Impact Report

An EIR is a public informational document used in the planning and decision-making process. This project-level EIR will analyze the environmental impacts of the proposed

project. The Kern County Planning Commission will consider the information in the EIR, including the public comments and staff responses to those comments, during the public hearing process. The final decision is made by the Planning Commission, which may approve, conditionally approve, or deny the project.

The purpose of an EIR is to:

- identify a project's potential impacts on the environment and indicate the manner in which those significant impacts can be avoided or mitigated;
- identify any unavoidable impacts that cannot be mitigated; and
- identify reasonable and feasible alternatives to the project that would eliminate any significant 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 foreseeable future projects. CEQA requires an EIR to reflect the independent judgment of the lead agency with respect to impacts, disclose the level of significance of the impacts both with and without mitigation, and describe mitigation measures proposed to reduce the impacts. An EIR is circulated to responsible agencies, trustee agencies with resources affected by the project, and interested agencies and individuals. The review process gives both agencies and individuals an opportunity to share expertise, discuss agency analyses, check for accuracy, detect omissions, discover public concerns, and solicit 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.

Reviewers of an EIR are requested to focus on the sufficiency of the document (i.e., the thoroughness of its identification and analysis of possible impacts on the environment as well as ways to avoid or mitigate such impacts). Comments are most helpful when they suggest better ways to avoid or mitigate significant environmental impacts (e.g., through additional alternatives or mitigation measures).

2.2.1 Issues to Be Resolved

State CEQA *Guidelines* Section 15123(b)(3) requires an EIR to discuss all project-related environmental issues as well as the choice among alternatives and all applicable mitigation measures. The major issues to be resolved by the lead agency include the following:

- whether the EIR adequately describes the environmental impacts of the project;
- selection of a preferred choice among alternatives;
- whether the recommended mitigation measures should be adopted or modified; and
- whether additional mitigation measures need to be developed for the project.

2.3 Terminology

The terms listed below are defined to assist reviewers in understanding this EIR:

- *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* means 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 where significant direct or indirect impacts would occur as a result of the project. The environment includes both natural and artificial conditions.
- *Impacts* analyzed under CEQA must be related to a physical change. Impacts include:
 - Direct or primary impacts that would be caused by the project and would occur at the same time and place; or
 - Indirect or secondary impacts that would be caused by the project and would be later in time or farther removed in distance, but would still be reasonably foreseeable. Indirect or secondary impacts may include growth-inducing impacts and other impacts related to induced changes in the pattern of land use; population density or growth rate; and related effects on air and water and other natural systems, including ecosystems.
- *Significant impact on the environment* means a substantial, or potentially substantial, adverse change in any of the physical conditions in the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. An economic or social change by itself is not considered a significant impact on the environment, but a social or economic change related to a physical change may be considered in determining whether the physical change is significant.
- *Mitigation* consists of measures that avoid or substantially reduce the project's significant environmental impacts by:
 - avoiding the impact altogether by not taking a certain action or parts of an action;
 - minimizing impacts by limiting the degree or magnitude of the action and its implementation;
 - rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
 - reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or

- compensating for the impact by replacing or providing substitute resources or environments.
- *Cumulative impacts* are two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. The following statements also apply when considering cumulative impacts:
 - The individual impacts may be changes resulting from a single project or a number of separate projects.
 - The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over time.

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

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

2.4 Decision-Making Process

CEQA requires lead agencies to solicit and consider input from 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 an opportunity to provide comments. In accordance with CEQA, there are several points at which the public can participate in the decision-making process. The process is outlined in the following steps:

- **Notice of Preparation/Initial Study (NOP/IS).** The lead agency prepared and circulated an NOP/IS for 30 days to responsible, trustee, and local agencies and the public for review and comment beginning on October 31, 2019. In conjunction with this public notice, Kern County held a scoping meeting on November 22, 2019, to provide a forum for public comments on the scope of the EIR. The NOP/IS and comments received during the circulation of the NOP are included in Appendix A of this EIR.

- **Draft EIR Preparation/Notice of Completion (NOC).** A Draft EIR is circulated for review and comment to appropriate agencies and additional individuals and interested groups and persons who have requested to be notified of EIR projects. Per State CEQA *Guidelines* Section 15105, the lead agency will provide for a 45-day public review period on the Draft EIR. The lead agency will subsequently respond to each comment on the Draft EIR that is received in writing through a Response to Comments chapter in the Final EIR. The Response to Comments chapter will be provided to each agency or person who provided written comments on the EIR at least 10 days prior to certification of the EIR.
- **Preparation and Certification of Final EIR.** The Kern County Planning Commission will consider the Final EIR and all public comments on the project itself before final action on the project. The Planning Commission will hold at least one public hearing to consider the Final EIR, take public testimony, and then approve, conditionally approve, or deny the project.

2.4.1 Notice of Preparation/Initial Study

Pursuant to State CEQA *Guidelines* Section 15082, as amended, Kern County circulated an NOP/IS to responsible and affected agencies and other interested parties for a 30-day public review period that began on October 31, 2019, and ended on December 2, 2019. The NOP/IS was also posted in the Kern County Clerk's office for 30 days and sent to the State Clearinghouse at the Governor's Office of Planning and Research to solicit statewide agency participation in determining the scope of the EIR. The purpose of the NOP/IS was to formally convey that Kern County, as the lead agency under CEQA, solicited input regarding the scope and proposed content of the EIR. The NOP/IS and all comment letters are provided in Appendix A of this EIR.

2.4.2 Scoping Meeting

Pursuant to State CEQA *Guidelines* Section 15082 (c)(1), for projects of statewide, regional, or area-wide significance, the lead agency is required to conduct at least one scoping meeting. The scoping meeting is for jurisdictional agencies and interested persons or groups to provide comments regarding, but not limited to, the range of actions, alternatives, mitigation measures, and environmental effects to be analyzed. Kern County hosted a scoping meeting at 1:30 p.m. on November 22, 2019, at the Kern County Planning and Natural Resources Department, 2700 "M" Street, Suite 100, Conference Room 1A, Bakersfield, California.

Notice of Preparation/Initial Study and Scoping Meeting Results

Verbal comments were received at the November 22, 2019, scoping meeting. The NOP/IS and all comments received are included in Appendix A, along with the Summary of Proceedings from the Scoping Meeting.

Notice of Preparation/Initial Study Written Comments

Kern County received the following comments listed in **Table 2-1, Summary of NOP/IS Comments**, in response to the NOP/IS.

Table 2-1 Summary of NOP/IS Comments	
Commenter	Summary of Comment
State Agencies	
California State Clearinghouse October 31, 2019	The State Clearinghouse provided transmittal of the NOP to reviewing agencies and reminded the agencies to comment in a timely manner.
Native American Heritage Commission (NAHC) November 1, 2019	The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the proposed project as early as possible to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources.
California Department of Toxic Substances Control (DTSC) November 18, 2019	The DTSC recommends that the EIR acknowledge the potential for the project to result in the release of hazardous wastes/substances; evaluate the presence of lead-based paint, mercury, asbestos-containing materials, and polychlorinated biphenyl caulk; soil contamination; and investigation of organochlorinated pesticides. DTSC recommends proper sampling of soils for contamination, if imported to the site for backfilling.
California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) November 22, 2019	DOGGR records indicate there are 14 known oil or gas wells (nine not abandoned wells and five abandoned wells) located within the project boundary. The DOGGR provides recommendations to avoid potential impacts to known wells, abandonment procedures, and notification requirements.
California Department of Fish and Wildlife (CDFW) November 22, 2019	The CDFW indicated in a comment letter the proposed project could result in adverse impacts to San Joaquin antelope squirrel, giant kangaroo rat, Tipton kangaroo rat, blunt-nosed leopard lizard, San Joaquin kit fox, burrowing owl, nesting birds, and special-status plants and provides recommended mitigation measures to avoid and/or reduce potential impacts.
California Department of Resources Recycling and Recovery (CalRecycle) December 2, 2019	CalRecycle indicated in a comment letter that implementation of the proposed project is likely to require a revision to the existing H. M. Holloway Landfill Inc. Solid Waste Facilities Permit (SWFP). CalRecycle requested clarification on changes to daily tonnage limits for disposal and landfill closure requirements for Pit E, and stated this permit revision will require action by CalRecycle as a responsible agency.
Local Agencies	
Kern County Public Works Department, Waste Planning and Reporting September 20, 2019	The Waste Planning and Reporting Division indicated in a comment letter that the Public Works Department will be considering a prospective host fee and feedstock reservation for the proposed composting project.
Kern County Superintendent of Schools November 1, 2019	The Superintendent of Schools indicated in a comment letter that the proposed project would have no significant effects on the Lost Hills Union and Wasco High School Districts.
Kern County Public Health Services, Environmental Health Division November 14, 2019	The Environmental Health Division indicated in a comment letter that revisions to the existing Solid Waste Facility Permit or a new Solid Waste Facility permit would be required for the project. The comment letter also requested an amendment to the Joint Technical Document, a Report of Composting Site Information, and an Odor Impact Minimization Plan, and to provide the method of water supply and sewage disposal prior to the issuance of building permits.

Table 2-1 Summary of NOP/IS Comments

Commenter	Summary of Comment
Kern County Public Works Department, Floodplain Management Section November 15, 2019	The Floodplain Management Section indicated in a comment letter the project site is subject to flooding and associated flood hazard requirements will need to be incorporated into the design of the project per the Kern County Floodplain Management Ordinance.
Kern County Public Works Department, Development Services Division November 26, 2019	The Administration and Engineering Division indicated in a comment letter that the Traffic Impact Study prepared for the proposed project should be revised to reflect the existing traffic index for Holloway Road and requested that a stamped Traffic Impact Study be submitted. The comment letter also stated an asphalt concrete overlay should be constructed on Holloway Road between SR-46 and G P Road, consistent with the Traffic Impact Study and encroachment permit. The Division also stated that all easements shall be kept open, clear, and free from development.
Kern County Public Works Department, Building and Code Operations [Not dated] 2019	The Building and Code Operations Department indicated in a comment letter that transferring biosolids from disposal to composting and/or to waste-to-energy should create an opportunity to decrease the allowable inbound disposal tonnage limit to ensure no net mobile source impacts. Additionally, the Department stated that, in order to remain in compliance with state recycling/diversion regulations, Kern County would need to divert 1 additional ton of material for every ton of material accepted for disposal at the Holloway facility, either from unincorporated Kern County sources or as a result of the proposed compost facility. Given the magnitude of the proposed tonnages, the project is expected to have significant negative impacts on County rate payers who would have to subsidize the cost of the additional recycling required.
Kern County Fire Department, Office of the Fire Marshal (KCFD) November 27, 2019	The KCFD stated in a comment letter that all new construction will require the presence of fire water, application for a building permit, and fire plan review.
San Joaquin Valley Air Pollution Control District (SJVAPCD) November 27, 2019	The SJVAPCD recommends the Air Quality section of the EIR include a discussion of the following impacts: criteria pollutants generated by construction and operation of the project, nuisance odors, health risk screening/assessment, and ambient air quality analysis.
Jesus Alonso, Clean Water Action November 12, 2020	The commenter asked if an air quality accumulative impact analysis would be prepared, what impact the increase in truck traffic would have on the community, and if the route used by trucks would go through the community or if it would go around. The commenter asked if there would be an increase in strong odors and asked what mitigation would be exercised in order to balance the expected increase in air pollution.
Scoping Meeting Comments (November 22, 2019)	
Kern County Public Works Department, Operations Division	The Operations Division requested clarification on source locations of waste streams, processing and separation of waste streams from feedstocks, and disposal tracking and reporting.
Kern County Public Works Department, Development Review Division	The Development Review Division requested that a Traffic Impact Analysis including a structural capacity analysis be prepared for the project and provided to Public Works – Development Review for review.

2.4.3 Availability of the Draft EIR

This EIR is being distributed directly to agencies, organizations, and interested groups and persons for comment during a 45-day formal review period in accordance with State CEQA *Guidelines* Section 15087. This EIR and the full administrative record for the project,

including all studies, are available for review by appointment during normal business hours, Monday through Friday, at the following location:

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

This EIR is also available on the Kern County Planning and Natural Resources Department website: <http://pcd.kernds.com/planning/environmental-documents>. Additionally, this EIR is available at the following libraries:

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

Kern County Library
 Wasco Branch
 1102 7th Street
 Wasco, CA 93280

2.5 Format and Content

This EIR addresses the potential environmental effects of the project and was prepared with input from the public and the responsible and affected agencies during the EIR scoping process, as discussed previously. The contents of this EIR are based on the findings in the NOP/IS and public agency input. According to the findings of the NOP/IS, a determination was made that an EIR would be required to address potentially significant environmental impacts related to the following resource areas:

- Aesthetics
- 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
- Population and Housing
- Public Services
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

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

- Agriculture and Forestry Resources
- Recreation

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

2.5.1 Required EIR Content and Organization

This EIR includes all the sections required by the State CEQA *Guidelines*, which are listed in **Table 2-2, Required EIR Contents**, along with a reference to the chapter in which they can be found within this document.

Requirement (CEQA/Section)	Location in EIR
Table of Contents (Section 15122)	Table of Contents
Summary (Section 15123)	Chapter 1
Project Description (Section 15124)	Chapter 3
Significant Environmental Impacts (Section 15126.2)	Chapter 4
Environmental Setting (Section 15125)	Chapter 4
Mitigation Measures (Section 15126.4)	Chapter 4
Cumulative Impacts (Section 15130)	Chapter 4
Growth-Inducing Impacts (Section 15126.2)	Chapter 5
Effects Found Not to Be Significant (Section 15128)	Chapters 1, 4, and 5
Significant Irreversible Changes (Section 15126.2)	Chapter 5
Unavoidable Significant Environmental Impacts (Section 15126.2)	Chapters 4 and 5
Alternatives to the Project (Section 15126.6)	Chapter 6
Organizations and Persons Consulted (Section 15129)	Chapter 9
References (Section 15129)	Chapter 10

The content and organization of this EIR is designed to meet the requirements of CEQA and the State CEQA *Guidelines*, and present issues, analyses, mitigation, and other information in a logical and understandable way. This EIR is organized into the sections listed below:

- Chapter 1, *Executive Summary*, provides a summary of the project description and the environmental impacts and mitigation measures that are identified in the EIR.
- Chapter 2, *Introduction*, provides CEQA compliance information, an overview of the decision-making process, information regarding the organization of the EIR, and a responsible and trustee agency list.
- Chapter 3, *Project Description*, provides a description of the location, characteristics, and objectives of the proposed project, as well as its relationship to applicable plans and policies.
- Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, contains a description of the existing conditions and a detailed environmental analysis of the

project impacts, mitigation measures, and unavoidable adverse impacts for each environmental category.

- Chapter 5, *Consequences of Project Implementation*, presents an analysis of the project's contribution to cumulative and growth-inducing impacts as well as other CEQA requirements, including significant and unavoidable impacts and irreversible commitments of resources.
- Chapter 6, *Alternatives*, describes a reasonable range of alternatives to the project that could reduce significant environmental effects that cannot be avoided.
- Chapter 7, *Responses to Comments*, is reserved for responses to comments on this EIR.
- Chapter 8, *Organizations and Persons Consulted*, lists the organizations and persons contacted during preparation of this EIR.
- Chapter 9, *List of Preparers*, identifies persons involved in the preparation of the EIR.
- Chapter 10, *Bibliography*, identifies reference sources for the EIR.
- Appendices provide information and technical studies that support the environmental analysis contained within the EIR.

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

- *Introduction* provides a brief overview on the purpose of the section being analyzed with regards to the project.
- *Environmental Setting* describes the physical conditions that exist at this time and may influence or affect the topic being analyzed.
- *Regulatory Setting* provides Federal, State, and local laws and the *Kern County General Plan* goals, policies, and implementation measures that apply to the topic being analyzed.
- *Impacts and Mitigation Measures* discusses the impacts of the project in each category presents the determination of the level of significance, and provides a discussion of feasible mitigation measures to reduce any impacts.
- *Cumulative Setting, Impacts, and Mitigation Measures* provides a discussion of the cumulative geographic area for each resource area, and analysis of whether the proposed project would contribute to a significant cumulative impact, and if so, identifies cumulative mitigation measures.

2.6 Responsible and Trustee Agencies

Projects or actions undertaken by the lead agency, in this case Kern County, 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 State 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 a Negative Declaration. For the purposes of CEQA, responsible agencies include 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 that has jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California (Section 15386).

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

- Federal Agencies
 - U.S. Army Corps of Engineers (USACE)
 - U.S. Environmental Protection Agency (USEPA)
 - U.S. Fish and Wildlife Service (USFWS)
- State Agencies
 - California Air Resources Board (CARB)
 - California Geologic Energy Management Division (CalGEM), formerly the Division of Oil, Gas, and Geothermal Resources (DOGGR)
 - California Department of Conservation, Office of Mine Reclamation
 - California Department of Fish and Wildlife (CDFW)
 - California Department of Transportation (Caltrans), District 9
 - California Native American Heritage Commission (NAHC)
 - State Water Resources Control Board (SWRCB)
- Local Agencies
 - San Joaquin Valley Air Pollution Control District (SJVAPCD)
 - Central Valley Regional Water Quality Control Board (RWQCB)

- Kern County
 - Kern County Planning and Natural Resources Department
 - Kern County Fire Department
 - Kern County Public Health Services Department
 - Kern County Public Works Department
 - Kern County Sheriff's Office

2.7 Incorporation by Reference

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

2.7.1 Kern County General Plan

The *Kern County General Plan* is a policy document with land use maps and related information. It is designed to give long-range guidance to those County officials who make decisions that affect the growth and resources in unincorporated Kern County, excluding the Metropolitan Bakersfield Planning Area. This document, adopted on June 14, 2004, and last amended on September 22, 2009, helps to 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 to mitigate environmental impacts. The General Plan also serves as a guide to the private sector of the economy so that development initiatives conform to Kern County's public plans, objectives, and policies.

2.7.2 Kern County Housing Element

The development and preservation of adequate and affordable housing is important to the residents of Kern County and the area's economic prosperity. To plan for the development of adequate housing for all income segments, a housing element was prepared as a part of the *Kern County General Plan*. The Housing Element specifically addresses housing needs and resources in Kern County's unincorporated areas. This Housing Element must maintain consistency with the other elements of the *Kern County General Plan*.

2.7.3 Kern County Zoning Ordinance

According to Chapter 19.02.020, Purposes, of the Kern County Zoning Ordinance, Title 19 was adopted to promote and protect the public health, safety, and welfare through the orderly regulation of land uses in unincorporated areas of Kern County. The specific purposes of this title are listed below:

- Provide the economic and social advantages resulting from an orderly planned use of land resources;
- Encourage and guide development consistent with the *Kern County General Plan*;
- Divide Kern County into zoning districts, the number, size, and location of which would be deemed necessary to carry out the purposes of the *Kern County General Plan* and Title 19;
- Regulate the size and use of lots, yards, and other open spaces;
- Regulate the use, location, height, bulk, and size of buildings and structures;
- Regulate the intensity of land use;
- Regulate the density of population in residential areas;
- Establish requirements for off-street parking;
- Regulate signs and billboards; and
- Provide for the enforcement of the regulations of Chapter 19.02.

2.7.4 2018 Regional Transportation Plan and Sustainable Communities Strategy

The 2018 Regional Transportation Plan (RTP) was adopted on August 16, 2018. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. It has been developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between Federal, State, regional, and local agencies. The RTP provides the Sustainable Communities Strategy (SCS) required by California's Sustainable Communities and Climate Protection Act of Senate Bill (SB) 375. The CARB set Kern County greenhouse gas (GHG) emissions reductions from passenger vehicles and light-duty trucks at 5 percent per capita by 2020 and 10 percent per capita by 2035 as compared to 2005. In addition, SB 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation (RHNA) ensuring consistency between low-income housing need and transportation planning. The Kern Council of Governments (Kern COG) engaged in the RHNA process concurrently with the development of the 2014 RTP. This process required Kern COG to work with its member agencies to identify areas within the region that can provide sufficient housing for all economic segments of the population and ensure that the State's housing goals are met (Kern COG 2018).

2.8 Sources

This EIR depends on information from many sources. Some sources are studies or reports that have been prepared specifically for this analysis. Other sources provide background information related to one or more issue areas that are discussed in this document. The sources and references used in the preparation of this EIR are listed in Chapter 10, *Bibliography*, and are available for review by appointment during normal business hours at:

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

This EIR is also available on the Kern County Planning and Natural Resources Department website: <http://pcd.kernds.com/planning/environmental-documents>.

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3.1 Introduction

This Environmental Impact Report (EIR) has been prepared by the Kern County Planning and Natural Resources Department (Kern County), the Lead Agency, to identify and evaluate potential environmental impacts associated with the implementation of the proposed Lost Hills Composting and Bioenergy Facility Project (project) by Lost Hills Environmental, LLC, project proponent (in conjunction with Aries Clean Energy LLC for the bioenergy facility). The project includes a request for land use entitlements necessary to facilitate modifications to current operations at an existing landfill facility that was originally approved as mine reclamation and has been in operation since 1997 with Conditional Use Permit (CUP) #7, Map 28, which was subsequently rescinded and replaced with the approval of CUP #9, Map 28 and subsequent modifications resulting in the current site boundary, disposal pit boundary, days and hours of operation, ancillary equipment, and accepted waste streams.

The project proponent is requesting modifications to two existing CUPs and requesting one CUP to be issued for the following:

- The construction and operation of a 640,000-ton-per-year (TPY) extended Aerated Static Pile (eASP) composting operation, in response to State climate law mandates to increase composting as part of landfill-related greenhouse gas (GHG) emission reductions, on a 136.2-acre portion of the existing 331-acre Lost Hills Environmental Industrial Landfill that has reached capacity;
- Allow for additional waste streams to be disposed of within the landfill;
- Extend the hours of operation to 24 hours per day, 365 days per year; and
- The construction and operation of a 3-megawatt (MW) (net) bioenergy facility on an approximate 6-acre portion of the Holloway Gypsum Mine.

The project proponent is requesting the following discretionary actions from Kern County:

- (a) **Modification No. 1, CUP #1, Map 28:** Amendment to the boundaries of CUP #1, Map 28 of the existing mining facility to remove 6 acres, which will become the location for the proposed bioenergy facility.
- (b) **Issuance of CUP #13, Map 28:** Establishment of a new CUP that would facilitate the construction of a 3-MW (net) bioenergy facility.

(c) **Modification No. 2, CUP #9, Map 28:** Amendment to CUP #9, Map 28 of the existing Class III Non-Hazardous Industrial Waste Landfill to include:

- a revision in the allowable waste streams permitted at the landfill to allow the acceptance and disposal of various materials; and
- a revision to allow for an increase in permitted hours of operation and construction and operation of an eASP composting facility sited on 136.2 acres within the current permitted landfill facility boundary. Material accepted for composting at the facility would include biosolids, green waste, food waste, manure, and wood waste, for a total 640,000 TPY.

3.1.1 Project Location

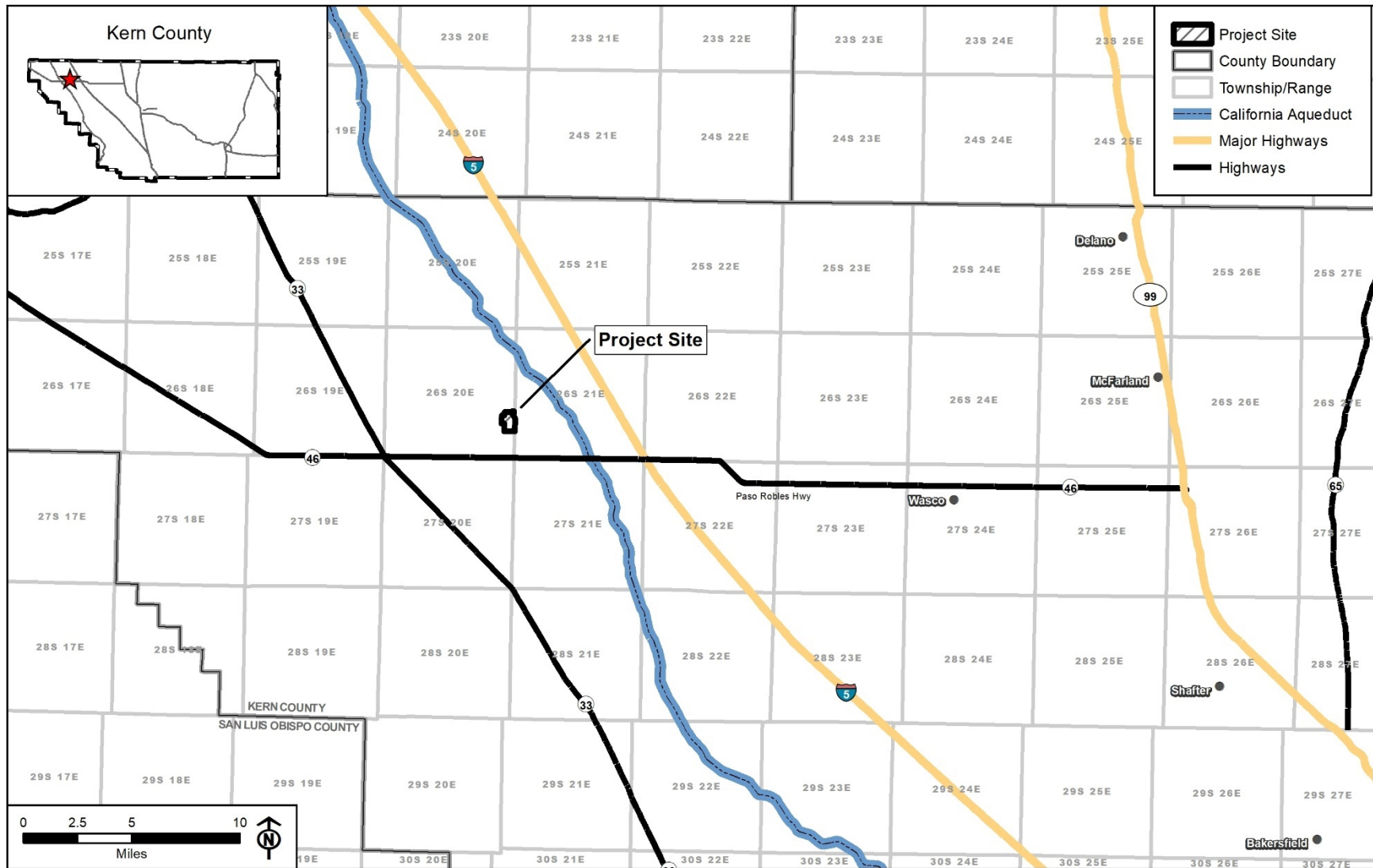
Project Site

The project site is in an unincorporated area of northwestern Kern County on Kern County Assessor's Parcel Numbers (APNs) 057-220-16, 057-240-29, 057-240-50, and 057-240-60 (refer to **Figure 3-1, Regional Vicinity**, and **Figure 3-2, Site Vicinity**). The unincorporated community of Lost Hills is located approximately 4.3 miles to the southeast. Two State highways (State Route [SR-] 46 and SR-33) are located 1.6 miles south and 6.4 miles west, respectively, from the project site. Interstate (I-) 5 is located approximately 5 miles east of the project site. Land in the project vicinity is generally characterized as a sparsely developed, rural agricultural area located in western Kern County. The nearest residence to the project site is 2.3 miles east of the project site at Munger Farms.

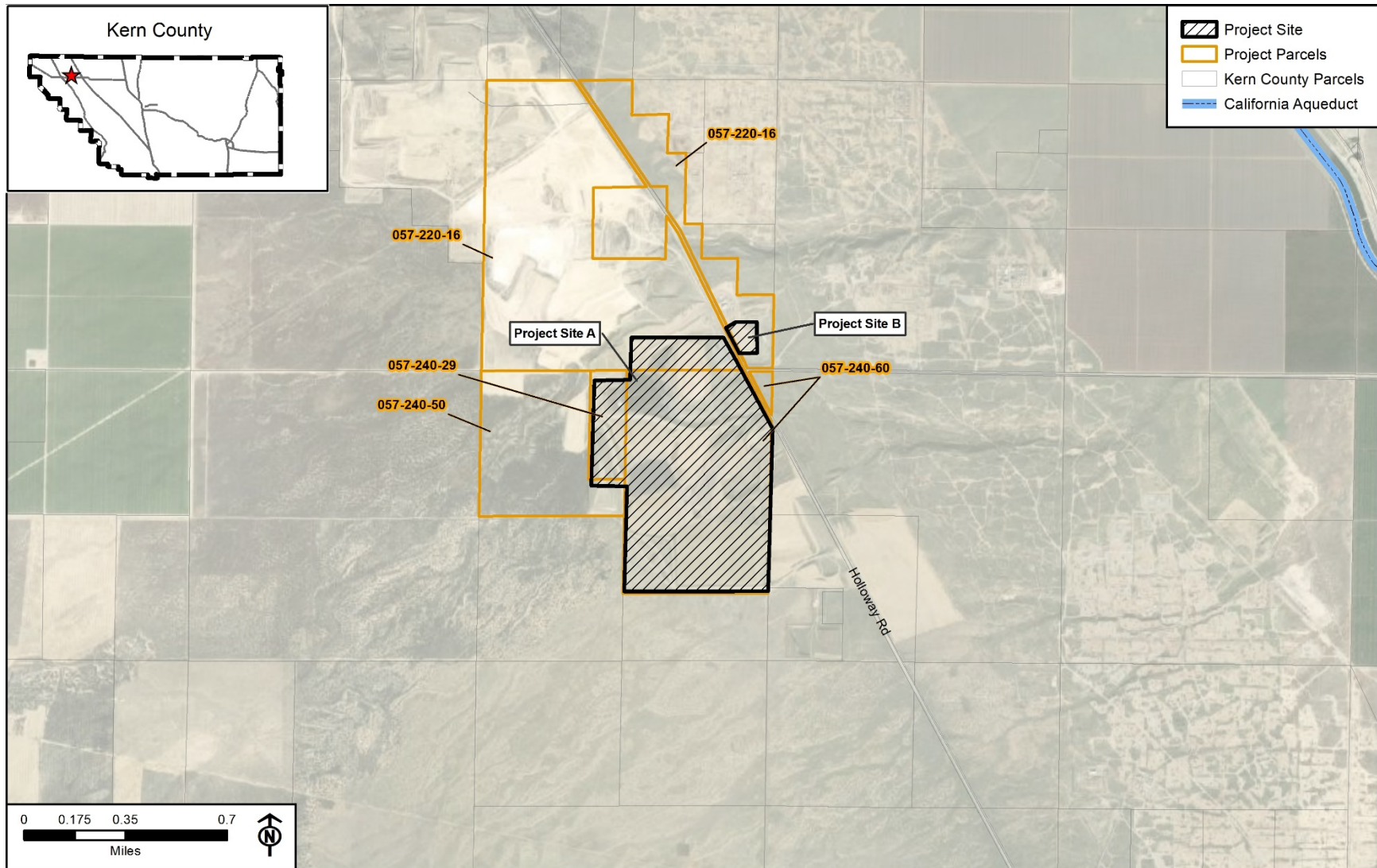
The project site is comprised of two adjacent sites, Sites A and B, which are separated by Holloway Road (**Figure 3-2, Site Vicinity**). Site A is an existing Class III non-hazardous industrial waste landfill facility located at 14045 Holloway Road on the west side of Holloway Road at the G P Road junction. Existing landfill operations and the future eASP composting facility would be sited within Site A. Site B is an equipment staging and storage lot on the east side of Holloway Road, north of G P Road and would be the future site of the bioenergy facility.

Site A

Lost Hills Environmental, LLC (the project proponent) owns Site A and operates the existing Lost Hills Environmental Industrial Landfill, which has been in operation since 1997. Operation of the 331-acre industrial waste landfill is allowed by CUP #9, Map 28. No permitted facility or permitted disposal area boundary changes are proposed to CUP #9, Map 28. Site A was previously known as H.M. Holloway Inc. Landfill, and prior to that the H.M. Holloway Gypsum Mine. The existing landfill is situated on 331 acres of previously mined land and consists of pits known as Pit "E," Pit "F," and Pit "G," as well as a connecting pit referred to as Pit "FG." These pits provide a total disposal footprint of 193 gross acres (includes total acreage of active landfill pit areas and surrounding buffers; 176 net acres not including buffers); the remaining 138 acres are a buffer and utilized for ancillary activities, including, but not limited to, overburden storage, monitoring equipment, a leachate system, water storage, a truck washing station, and a required buffer area around the facility.



**Figure 3-1
Regional Vicinity**



**Figure 3-2
Site Vicinity**

H.M. Holloway Inc. continues to operate a gypsum mine facility located immediately north/northwest of Site A; however, the mine is not included within the project boundary.

As shown on **Figure 3-2, Site Vicinity**, Site A is primarily accessible from the west side of Holloway Road, specifically from three entrance/exit points. The project proposes to utilize the existing landfill accesses, with the addition of directional traffic flow identifying ingress and egress for each site; therefore, no new site access is proposed as part of this project.

Site B

Lost Hills Environmental, LLC owns Site B and utilizes the area for equipment staging and storage for the H.M. Holloway Gypsum Mine as conditioned in CUP #1, Map 28. The project proponent has requested approximately 6 acres be removed from CUP #1, Map 28 to create Site B for the proposed bioenergy facility. A new CUP would be issued to allow for construction and operation of the bioenergy facility.

Site B is currently accessible from the east side of Holloway Road. The future bioenergy facility would utilize the current Site B accesses, with the addition of directional traffic flow identifying ingress and egress for each site; therefore, no new site access is proposed.

3.1.2 Project Site History and Existing Operations

Lost Hills Environmental, LLC Landfill (Site A)

Historically, the approximately 331-acre landfill, which includes Site A, was a portion of the H.M. Holloway open pit gypsum mine, which has operated for over 70 years. As described above, disposal activities at the existing gypsum mine facility began in 1995 for mine reclamation and were initially approved via a CUP (CUP #7, Map 28) in 1997, which was subsequently rescinded and replaced in 2008 by the approval of CUP #9, Map 28. CUP #9, Map 28 required the site to obtain a Solid Waste Facility Permit (SWFP) for ongoing disposal operations. CUP #9, Map 28 was subsequently modified in 2013, 2016, and 2017 to result in the current site boundary, disposal pit boundary, days and hours of operation, ancillary equipment, and accepted waste streams. One EIR, two EIR Addendums, and one Negative Declaration have been prepared and adopted for the project site.

In addition to the approved CUP, the landfill facility operates under California Regional Water Quality Control Board (RWQCB) Central Valley Region Wastewater Discharge Requirements (WDRs) Order number R5-2010-0123 and Solid Waste Facility Permit (SWFP) SWIS 15-AA-0308, issued by the Local Enforcement Agency (LEA) (Kern County Environmental Health Services Division acting as the LEA for the California Department of Resources Recycling and Recovery [CalRecycle]). As noted above, the proposed project includes a request to modify the existing landfill CUP. After modification of CUP #9, Map 28, the project would require modification of the existing WDRs and SWFP, as well as the San Joaquin Valley Air Pollution Control District (SJVAPCD)-issued Authority to Construct (ATC) and Permit to Operate (PTO).

As allowed by the existing CUP #9, Map 28, the landfill facility currently operates from 6:00 a.m. to 4:00 p.m., 7 days per week. Employees are on-site 10 hours per day. Within a 10-hour period, there are typically 10 employees working at the landfill. Waste material is delivered to the facility by truck/trailer combination with approximately 25-ton capacity. The existing CUP #9, Map 28 allows for up to 91 trucks per day, with a maximum of 564 trucks per week allowed to enter the facility, and total deliveries of up to 2,000 tons per day (TPD), with a maximum of 12,000 tons per week authorized. The facility's current permitted operations are summarized in **Table 3-1, Current Permitted Operations**.

Table 3-1 Current Permitted Operations

CUP Boundary	Disposal Footprint	Disposal Capacity	Days and Hours of Operations	Maximum Number of Trucks Delivering Waste to the Landfill	Maximum Tonnage of Waste Accepted
331 Acres	193 acres (gross) 176 acres (net)	8.35 MCY*	7 days per week 6:00 a.m. to 4:00 p.m.	91 trucks (daily) 546 trucks (weekly)	2,000 tons (daily) 12,000 tons (weekly)

* MCY = million cubic yards

Trucks utilize I-5 to SR-46 to access Holloway Road from the south and I-5 to Twisselman Road to access Holloway Road from the north. Trucks traveling from coastal areas utilize U.S. Route 101 (US 101) to SR-46 from the west. The project site is currently developed as a Class III non-hazardous industrial landfill facility approved to accept fly ash, lime cake, auto shredder waste, spent sandblast media, and Class A and B dewatered biosolids. Waste streams are separated into assigned landfill pits by material. Pit E is at grade and approved to receive treated auto shredder waste, fly ash, and lime filter cake. Pit F receives spent sandblast media, fly ash, treated auto shredder waste, and lime filter cake. Pit G and connecting Pit FG are approved to receive dewatered Class A and B biosolids and fly ash as co-disposal; additionally, spent sandblast media, treated auto shredder waste, and lime cake may also be disposed of in both pits, but are kept segregated from the biosolids disposal area. Waste materials are transported from areas throughout central, southern, and coastal California to the project site using commercial trucking.

Upon arrival at the landfill, trucks delivering waste materials are weighed at a scale located at the H.M. Holloway Inc. administration office directly across Holloway Road from the landfill entrance gate. Once weighed and registered, trucks access the landfill through a gate located at the northernmost edge of the landfill by a private dirt road that separates the landfill facility from the mining facility. The deliveries are directed to the appropriate pit and offloaded to a laydown area near the corresponding disposal pit. Biosolids and fly ash are placed in windrows and mixed by employees using a dozier with a blade and then placed into the appropriate pit. Trucks exit through a truck rinse area where debris is rinsed from the truck and trailer. The trucks then return to the scale for weighing prior to leaving the facility.

Lost Hills Environmental, LLC (Site B)

Site B is comprised of approximately 6 acres currently sited within a portion of the Holloway Gypsum Mine CUP boundary (CUP #1, Map 28). The site has historically been used for large equipment storage and staging. It is located directly east of the existing Lost Hills

Environmental Industrial Landfill site, across Holloway Road, and directly south of the existing facility parking and administrative buildings used for both the mine site and the landfill site. An EIR was prepared for the site in 1982 when it was originally permitted. The proposed project includes a request to remove the 6-acre Site B from CUP #1, Map 28, and issue a new CUP to allow for the construction and operation of a bioenergy facility.

Previous Operational Approvals

Pre-2008 Activities and Approvals

The first discretionary permits that Kern County issued for this project were CUP #1, Map 28 and CUP #5, Map 29, which were approved on September 23, 1982, for a surface mine up to 1 million tons per year of gypsum and reclamation plan. An EIR (State Clearinghouse [SCH] No. 81091508) was prepared and certified at the time of the CUP approval. On October 14, 1993, the Board of Zoning Adjustment approved modifications to these permits to allow the open pits to be backfilled with three cogeneration waste byproducts, specifically, fly ash, lime cake, and sulfur as part of the Surface Mining and Reclamation Act (SMARA) reclamation and to be used as a soil amendment. On October 14, 1993, a modification to the CUP to add non-hazardous cogeneration waste materials was approved. On December 2, 1993, the Local Enforcement Agency (LEA; Kern County Environmental Health Services Department) issued an exemption for an SWFP per California Code of Regulations (CCR) Title 27, Section 21565 as an Unclassified Waste Management Unit. In November 1995, a second modification was approved by the Planning Department to allow the acceptance of treated and shredded automobile waste (auto fluff and Treated Auto Shredder [TAS] waste) and dewatered bentonite-based water well drilling mud as additional backfill material. The acceptance of all of these inert backfill materials was limited to three of the existing mine pits, specifically Pits E, F, and G. The LEA issued a new Notice of Exemption due to expanded waste streams on November 30, 1995.

In 1997 the applicant applied for a third modification request to add construction cement and concrete, shredded tires, shredded plastic, and asphalt products (i.e., roofing shingles and used asphalt road base material) to the list of approved backfill materials in the three pits. The project proponent applied for a new CUP, and it was initially processed with a General Plan Amendment to a Land Use Map Code 3.4 (Solid Waste Facilities). This amendment was subsequently withdrawn when the LEA determined that an SWFP would not be required. CUP #7, Map 28 was approved by the Kern County Planning Department on October 28, 1997, to permit the requested modification. On February 3, 2000, the Planning Commission approved a modification to CUP #7, Map 28 to allow an on-site tire processing and storage facility. With CUP #7, Map 28, Condition #24 was added governing the approval of the development of a Minor Waste Tire Facility. The Waste Tire Facility Permit (No. 15-TI-1024), which was approved on October 29, 1999, by the California Integrated Waste Management Board, has never been utilized and, due to lack of implementation of the project, the Waste Tire Facility Permit and associated CUP #7, Map 28 modification expired on October 29, 2004.

2008 (Landfill CUP – Approved)

The original H.M. Holloway Landfill was approved and an EIR (SCH No. 2002111102) was certified by the Board of Supervisors on April 2, 2008. The originally approved project consisted of the development of a Class III non-hazardous industrial waste landfill on 301 acres of land with a total disposal capacity of 8.35 million cubic yards (MCY). The approved project area consists of four contiguous disposal pits identified as Pits E, F, and G and the Pit FG Connection area. The current approved waste streams are summarized in **Table 3-2, Currently Permitted Waste Streams**.

Table 3-2 Currently Permitted Waste Streams*

Waste Stream Category	Description	Disposal Pit
Fly Ash (Cogeneration Ash) (2008)	Very high temperature combustion byproduct of oil field cogeneration facility burning, consisting primarily of very fine silica shards.	E, F, G, FG (co-disposal of biosolids)
Lime Cake (2008)	Loose granular calcium carbonate solid that is used in bulk form within water clarifier or filtration systems of oil field production systems.	E, F, G (segregated from biosolids)
Treated Auto Shredder Waste (2008)	Predominately non-metallic solid materials, including plastic, broken glass, rubber, soil, and fabric, that have been separated from the recyclable metals; prior to disposal in a landfill, auto shredder waste is treated off-site by the generator to chemically bind soluble heavy metals.	E, F, G, FG (segregated from biosolids)
Dewatered Class A & B Biosolids (2008)	Treated solid, semi-solid, or liquid residues generated during the treatment of sewage in a wastewater treatment works that meet 40 Code of Federal Regulations (CFR) Part 503 requirements specified in 503.32(b) for pathogen reduction, 503.33 for vector attraction reduction, and 503.13, Table 1 for pollutant concentrations; these residues include, but are not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes, and material derived from sewage sludge.	G, FG
Spent Sandblast Media (2008)	Waste that results from preparing the surfaces of steel structures and tanks for recoating to provide corrosion protection for the surface consisting of the abrasive debris and the paint/primer and metal surface residues that are generated during the sandblasting surface preparation phase.	F, G, FG (segregated from biosolids)

* As listed in the 2008 EIR and as approved by the Kern County Board of Supervisors on July 13, 2010, and February 22, 2011.

2013 (First Modification to CUP – Approved)

Since approval of the landfill in 2008, the project proponent has participated in ongoing compliance with the regulatory requirements of the RWQCB and California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA). As a result of required compliance activities, such as the installation of a leachate system, the increased slope of pit walls and floors, and the installation of berms separating the pits and buffering the gas

monitoring well, the total capacity of the landfill was reduced. In 2013 the project proponent requested to modify the existing footprint of the two disposal pits in order to maintain the landfill capacities as identified in the originally approved project (see **Table 3-1, Current Permitted Operations**), and the request was approved by the Kern County Planning Commission on October 24, 2013 (Resolution 102-13). The 2013 approval increased the size of the disposal pit boundaries, which required a modification of the previously approved CUP #9, Map 28. The proposed modification revised the site plan to increase the size and location of the boundaries of Pit G and the Pit FG Connection area (**Figure 3-3, 2013 Site Plan**). The modification added approximately 9 acres to Pit G and approximately 12 acres to the Pit FG Connection area. At that time, the project proponent did not request any changes to the approved CUP boundary for the landfill, changes to the landfill's capacity, increases in permitted daily volume of incoming materials, or changes to allowed waste streams.

2016 (Second Modification to CUP – Approved)

The project proponent submitted a request in 2015, which was approved by the Kern County Board of Supervisors on March 15, 2016, to revise the approved project as follows:

1. A General Plan Amendment (GPA) to Map Code 3.4/2.10 for the approximately 30-acre expansion area, and a GPA to Map Code 3.4.1 and 3.4.1/2.10 for the approximately 128-acre buffer area of 1,320 feet around the facility. The policies of the *Kern County General Plan* require each solid waste disposal facility to obtain a 3.4 land use designation, as well as a buffer area of 1,320 feet around the facility;
2. Amend Appendix E of the *Kern County General Plan* to replace H.M. Holloway Solid Waste Facility Map; and
3. Amend project boundaries and conditions of CUP #9, Map 28 to allow for the relocation of required monitoring equipment and adjustment in facility closure date in an A (Exclusive Agriculture) Zone District. This proposal did not include a request to increase the total disposal capacity or location of disposal pits to the previously approved project site.

2017 (Third Modification to CUP – Approved)

The project proponent submitted a request in 2016, which was approved, for a modification to the previously approved H.M. Holloway Landfill Project by H.M. Holloway, Inc., to amend condition of approval (rr) to modify the days of operation for the facility from 6 days per week (i.e., Monday through Saturday) to 7 days per week, and to restrict daily operating hours to 10 hours per day (i.e., 6:00 a.m. and 4:00 p.m.) to allow for consistency with operational day and hours permitted in the Kern County Public Health Department/Environmental Health Services Division approved SWFP No. 15-AA-0308.

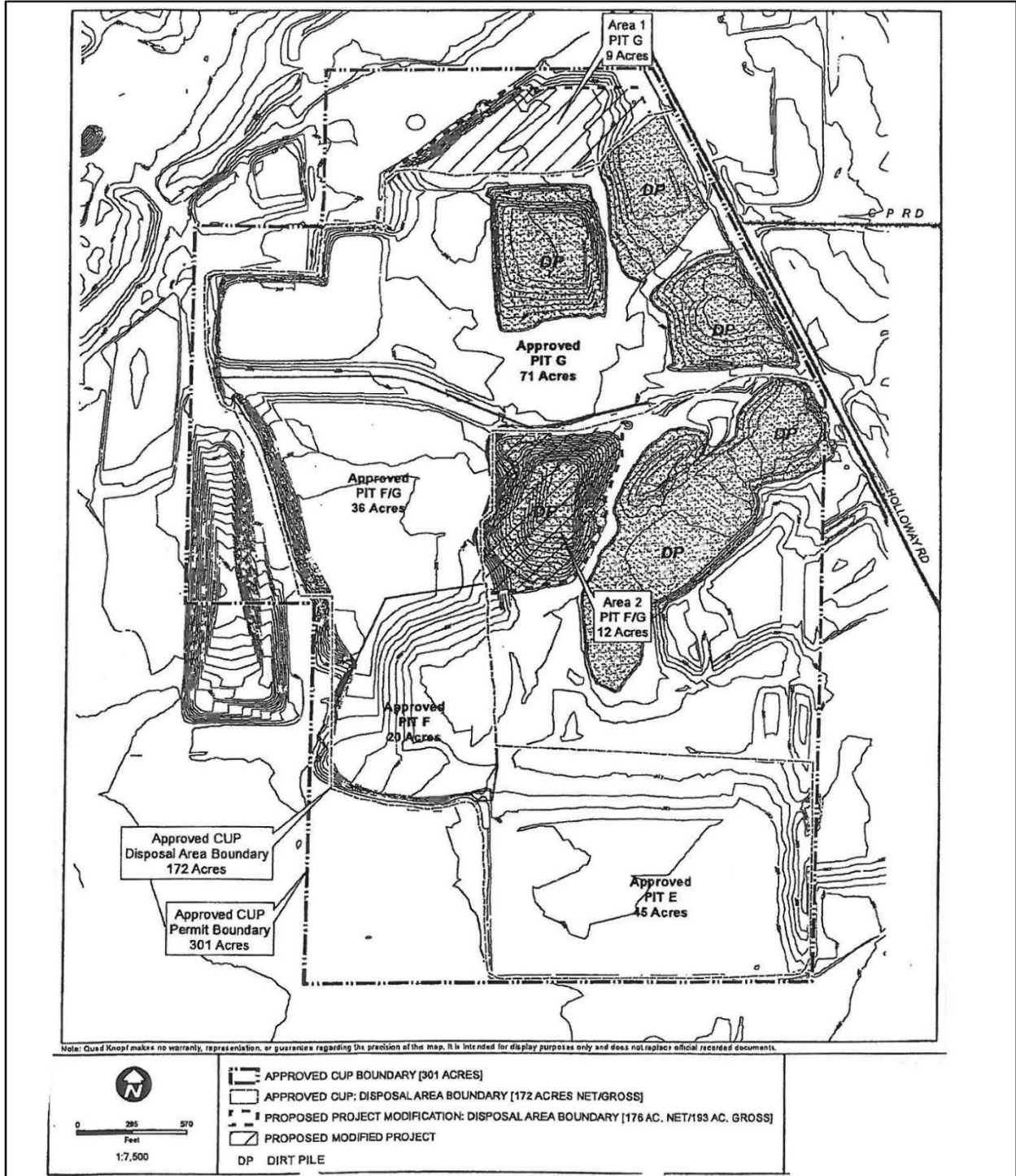


Figure 3-3
 2013 Site Plan

3.2 Environmental Setting

3.2.1 Regional Setting

The project site is in unincorporated northwestern Kern County, in central California, as shown in **Figure 3-1, Regional Vicinity**, and **Figure 3-2, Site Vicinity**. The topography of the project area is relatively flat, with gently rolling slopes located in the Antelope Plain, approximately 16.5 miles east of the Temblor Mountain Range. The elevation in the project area ranges from approximately 370 to 500 feet above mean sea level (amsl).

3.2.2 Surrounding Land Uses and Project Site Conditions

The project site, as currently permitted, is located on a graded site that has been developed and remains in operation as a landfill and mining facility. The project area is generally characterized as a sparsely developed, rural, agricultural area. Surrounding land uses include the H.M. Holloway Gypsum Mine to the north, a closed Kern County landfill and other undeveloped land to the south, undeveloped Federal land and the 3,000-acre Lost Hills Oil Field (owned and operated by various producers) to the east, and undeveloped land to the west. Other adjacent or nearby land uses include orchard and row-crop farming, rural access roads, a biosolids/green waste composting operation (Liberty Composting), and two State highways (SR-46 and SR-33).

The nearest residence in proximity to the project site is 2.3 miles east of the project site at Munger Farms. The nearest community, Lost Hills, is located approximately 4.3 miles southeast of the project site.

There are no designated California scenic highways located in the project vicinity, no railroads located in the vicinity of the project site, and no known historic resources in the project area.

The California Aqueduct is the nearest major waterway and is approximately 2.13 miles to the east of the project site. There are 12 groundwater monitoring wells located within the 331-acre Site A boundary. There are currently three groundwater monitoring wells associated with Pit E, four associated with Pit F, and five associated with Pit G. The Pit FG Connection Area is covered by wells associated with both Pits F and G.

According to the California Department of Conservation (CDOC) Kern County Important Farmland 2016 Map, the project site is identified as Vacant or Disturbed Land. No lands within the project boundary are subject to a Williamson Act Land Use contract. The project site is excluded from Kern County Agricultural Preserve No. 5.

The climate in the area is semi-arid with total annual precipitation over the past 30 years averaging about 5.7 inches with a range of 1 to 14 inches. Rainfall occurs generally between the months of January and March. Occasional thunderstorms may occur in August, but do not account for much of the annual precipitation. Winter months are mild with temperatures

averaging 20 degrees Fahrenheit (°F) to 50°F. Summers are harsh and dry with temperatures ranging from 60°F to over 100°F.

Vegetation throughout the project site consists of developed areas, ruderal areas, and nonnative annual grassland. Land use records indicate that, prior to development of the project site with the existing landfill facility, the entire project site was historically used for surface mining of gypsum.

The project site is not located within the boundaries of any airport as identified in the Kern County Airport Land Use Compatibility Plan (ALUCP). The closest public airport is the Lost Hills Airport, approximately 4 miles east of the project site. The project site is located within the San Joaquin Valley Air Basin.

The project site is not located within a Federal Emergency Management Agency (FEMA) designated flood zone; the closest designated flood zone is located approximately 1 mile northwest of the project site.

Based on a review of records maintained by the CDOC California Geologic Energy Management Division (CalGEM; formerly the Division of Oil, Gas and Geothermal Resources [DOGGR]), wells were not identified on the project site (CDOC 2019). Records maintained by the Kern County Assessor indicated the project site is located on designated Mineral Rights APNs (057-220-16, 057-240-29, and 057-240-60).

The project would be served by the Kern County Sheriff's Office (KCSO) for law enforcement and public safety, Kern County Fire Department (KCFD) for fire protection, and Kern County Medical Emergency Service for emergency medical and rescue services. The closest KCSO Substation is the Wasco City Substation, located approximately 24 miles east of the project site at 748 F Street in the City of Wasco. The nearest KCFD fire station that would serve the project is Station 26 – Lost Hills, located approximately 4.7 miles southeast of the project site at 14670 Lost Hills Road in the community of Lost Hills. The nearest hospital is the Adventist Health Delano Regional Medical Center Hospital located approximately 30 miles northeast of the project site in the City of Delano. The closest school to the project site is the combined Lost Hills Elementary School and A.M. Thomas Middle School, approximately 4.3 miles to the southeast.

3.3 Land Use and Zoning

The existing General Plan land use designations and zoning classifications for the project site and surrounding lands are shown on **Figure 3-4, Existing General Plan Designations**, and **Figure 3-5, Existing Zoning Classifications**, and identified in **Table 3-3, Existing Land Uses, Zoning, and Land Use Designations**.

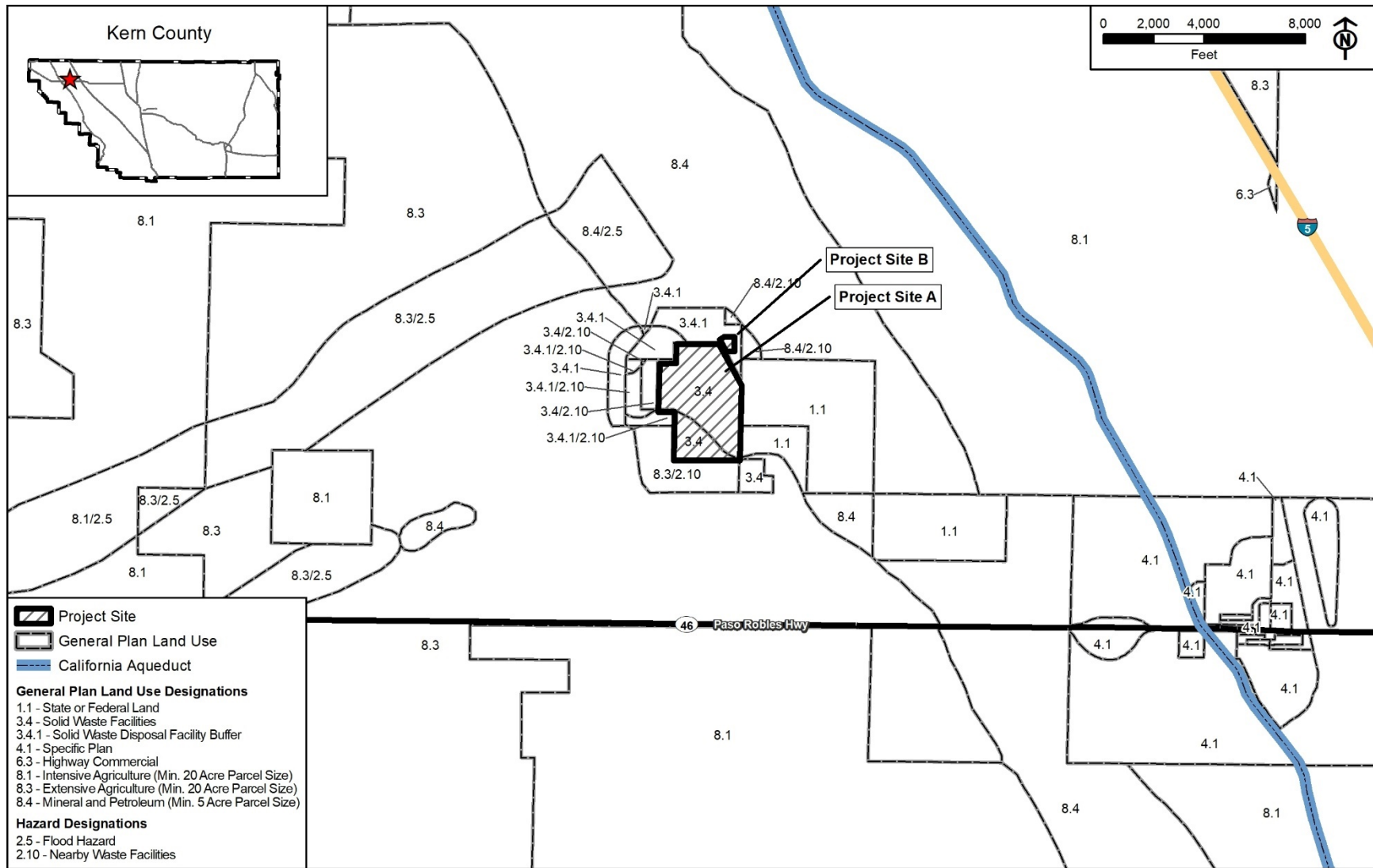
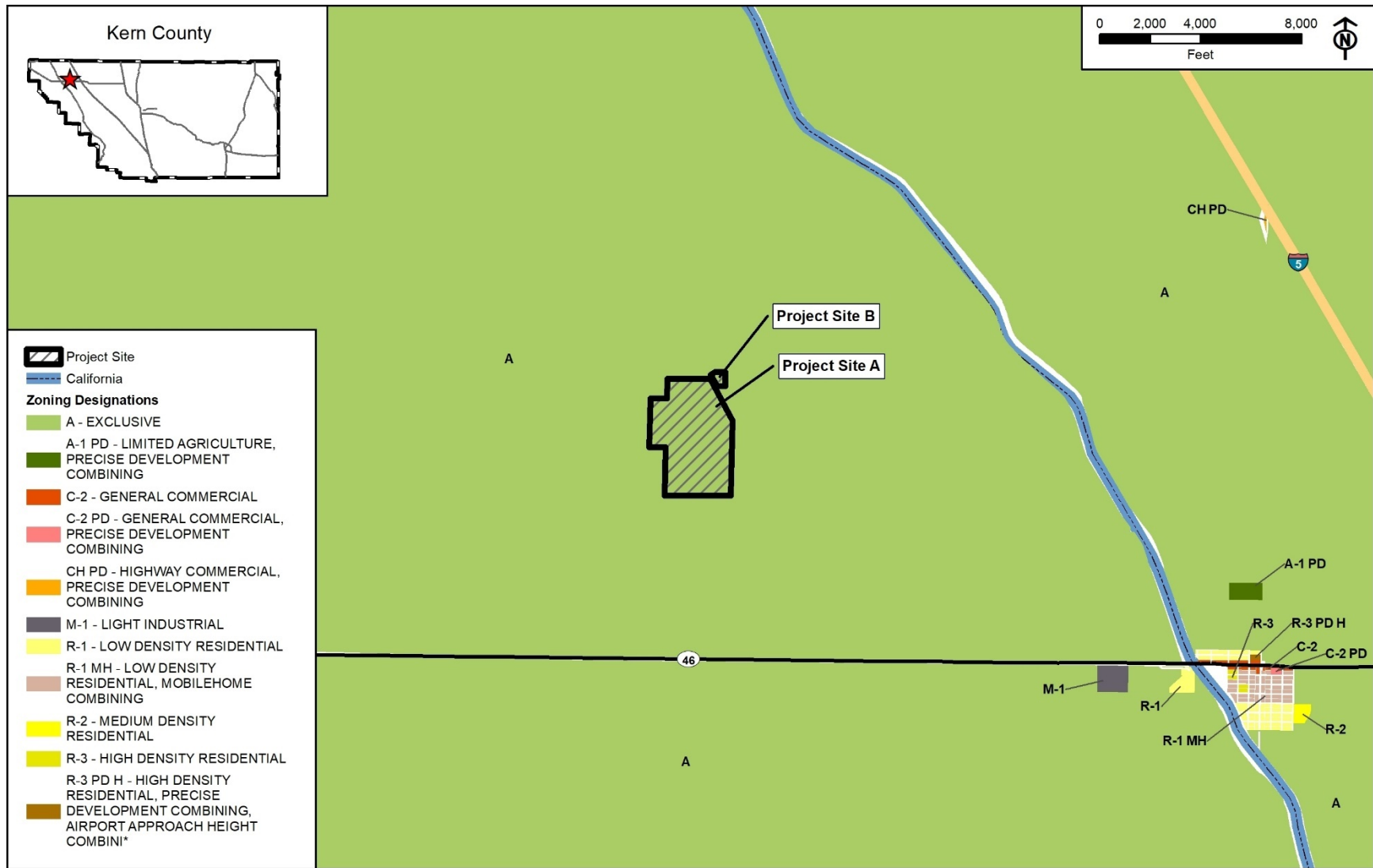


Figure 3-4
Existing General Plan Designations



**Figure 3-5
 Existing Zoning Classifications**

Table 3-3 Existing Land Uses, Zoning, and Land Use Designations

	Existing Land Use	Existing General Plan Land Use Designation	Existing Zoning Classification
Site A	Developed with Lost Hills Environmental Landfill Facility	<ul style="list-style-type: none"> • 3.4 (Solid Waste Disposal Facility) 	A (Exclusive Agriculture)
Site B	H.M. Holloway Equipment Yard	<ul style="list-style-type: none"> • 3.4.1 (Solid Waste Disposal Facility Buffer) 	A (Exclusive Agriculture)
North	H.M. Holloway Gypsum Mine	<ul style="list-style-type: none"> • 3.4.1 (Solid Waste Disposal Facility Buffer) • 8.4/2.10 (Mineral and Petroleum (5-acre min)/ Nearby Solid Waste Disposal Facility) 	A (Exclusive Agriculture)
South	Undeveloped; Inactive Kern County Landfill	<ul style="list-style-type: none"> • 8.3 (Extensive Agriculture, 20-acre min) • 8.3/2.10 (Extensive Ag, 20-acre min)/ Nearby Solid Waste Disposal Facility) • 3.4 (Solid Waste Disposal Facility) 	A (Exclusive Agriculture)
East	Lost Hills Oilfield and Undeveloped Federal Land	<ul style="list-style-type: none"> • 8.4/2.10 (Mineral and Petroleum (5-acre min)/ Nearby Solid Waste Disposal Facility) • 1.1 (State and Federal Land) 	A (Exclusive Agriculture)
West	Undeveloped Land	<ul style="list-style-type: none"> • 8.3/2.10 (Extensive Ag, 20-acre min)/ Nearby Solid Waste Disposal Facility) • 3.4.1/2.10 (Solid Waste Disposal Facility Buffer/ Nearby Solid Waste Disposal Facility) • 3.4 (Solid Waste Disposal Facility) 	A (Exclusive Agriculture)

3.3.1 Kern County General Plan

The project site is located within unincorporated Kern County and within the administrative boundaries of the *Kern County General Plan*. As shown on **Figure 3-4, Existing General Plan Designations**, and discussed in **Table 3-3, Existing Land Uses, Zoning, and Land Use Designations**, Site A is designated as Map Code 3.4 (Solid Waste Disposal Facility) and Site B is designated as Map Code 3.4.1 (Solid Waste Disposal Facility Buffer).

According to the *Kern County General Plan*, the Solid Waste Disposal Facility (Map Code 3.4) land use designation applies to existing or planned public, semi-public, or private municipal solid waste facilities, organic waste disposal facilities, and segregated waste stream disposal facilities. The Solid Waste Disposal Facility Buffer (Map Code 3.4.1) land use designation applies to areas, which are owned by the solid waste disposal facility, within 1,320 feet of a permitted disposal area as defined by the 3.4 Map Code designation. The project does not propose a change to the existing General Plan Map Code Designations.

3.3.2 Kern County Zoning Ordinance

The entire project is also subject to the provisions of the Kern County Zoning Ordinance. As shown on **Figure 3-5, Existing Zoning Classifications**, and discussed in **Table 3-3, Existing Land Uses, Zoning, and Land Use Designations**, Sites A and B are within the A (Exclusive Agriculture) Zone District. According to Kern County Zoning Ordinance Section 19.12.030 H, bioenergy facilities, composting facilities, and sanitary landfills are permitted uses within the A Zone District, subject to the approval of a CUP. The project proponent is requesting a

modification to the existing landfill CUP #9, Map 28 to modify the hours of operation of the facility, expand the list of allowable waste streams, and include the construction and operation of a 640,000 TPY eASP composting facility; removal of the approximately 6-acre Site B from CUP #1, Map 28; and issuance of a new CUP to allow for construction and operation of the bioenergy facility. The project would not require any amendment to the Zoning Ordinance or change to the Zone District for the project site.

3.4 Project Objectives

The California Environmental Quality Act (CEQA) requires a statement of project objectives (Section 15124(b) of the State *CEQA Guidelines*). The project proponent has defined the following objectives for the project:

1. Provide regional composting and bioenergy capacity to meet the organic waste diversion requirements enacted by recent California legislation (Assembly Bill [AB] 341, which directs CalRecycle to increase Statewide diversion of solid waste to 75% by 2020; AB 1826, which requires businesses that generate a specified amount of organic waste per week to arrange for appropriate processing (e.g., composting) for that waste to further reduce landfilling of such organic materials; Senate Bill [SB] 1383, approved November 3, 2020 and set to go into effect January 1, 2022, which establishes targets to achieve 50% reduction in the level of Statewide disposal of organic waste from the 2014 level by 2020 and a 75% reduction by 2025, etc.);
2. Allow for the installation of a composting facility using a variety of compostable organic streams with a forced aeration system to increase the efficiency of the composting process;
3. Allow for the installation of a bioenergy facility using a variety of wood, agricultural residues, and other organic streams to produce biomass based renewable energy;
4. Provide a service area, within approximately 150 miles of the project site, to improve quality and quantity of finished composting products for use by agriculture and landscaping operators;
5. To divert organic material from landfills and produce high-quality compost for the agricultural community and other customers while also reducing GHG emissions by keeping organics out of landfills in accordance with SB 1383;
6. Increase diversion of organic materials from landfills by providing an approved expanded feedstock list which includes a variety of wood, agricultural residues, and other organic streams to produce biomass-based compost and renewable energy;
7. Provide economic benefits to Kern County through employment of local residents and through the expansion of operational activities and construction of new processing equipment, which has the potential to create new job opportunities;

8. Continue to comply with SJVAPCD rules and regulations, and changes to those regulations in the future;
9. Enhance business owners' ability to comply with AB 1826, which requires that as of April 1, 2016, businesses that generate a specified amount of organic waste per week must arrange for recycling services for that organic waste in a specified manner (such as composting) to substantially reduce landfill disposal of food wastes; and
10. Continue to accept waste materials by utilizing exhausted mining space without having to open a new landfill pit.

3.5 Proposed Project

The proposed project includes a request for land use entitlements necessary to facilitate the continued use of a Class III Non-Hazardous Industrial Waste Landfill facility with additional waste streams and expanded hours of operation, and the construction and operation of a new composting facility and bioenergy facility. Implementation of the proposed project would require the following approvals:

- (a) **Modification No. 1, CUP #1, Map 28:** Amendment to the boundaries of CUP #1, Map 28 of the existing mining facility to remove 6 acres, which will become the location for the proposed bioenergy facility.
- (b) **Issuance of CUP #13, Map 28:** Establishment of a new CUP that would facilitate the construction of a 3-MW (net) bioenergy facility.
- (c) **Modification No. 2, CUP #9, Map 28:** Amendment to CUP #9, Map 28 of the existing Class III Non-Hazardous Industrial Waste Landfill to include:
 - a revision in the allowable waste streams permitted at the landfill to allow the acceptance and disposal of various materials; and
 - a revision to allow for an increase in permitted hours of operation and construction and operation of an eASP composting facility sited on 136.2 acres within the current permitted landfill facility boundary. Material accepted for composting at the facility would include biosolids, green waste, food waste, manure, and wood waste, for a total 640,000 TPY.

3.6 Project Component Overview

3.6.1 eASP Composting System

The State of California continues to pass legislation directing more diversion from landfills, which results in a higher demand for resource recovery, recycling, and composting. Approximately 30% of what currently goes to landfills is organic material and should be composted or recycled.

Notable recent bills signed by Governor Brown include AB 341, which is designed to help meet California's recycling goal of 75% by 2020; AB 1594, which eliminates the use of green waste as alternative daily cover at a landfill to be considered diversion; SB 1383, approved November 3, 2020 and set to go into effect January 1, 2022, which establishes targets to achieve a 50% reduction in the level of the statewide disposal of organic waste by 2020 and a 75% by 2025; and AB 1826, which requires commercial businesses in 2016 to separate their food and yard wastes for composting and anaerobic digestion. This will result in a greater demand for composting of food and green organic materials. Reducing emissions from waste landfills is also an important component of the State's GHG reduction and climate programs. The tonnage of available compostable food waste is unknown at this time but is anticipated to gradually increase as communities begin to implement food waste collection programs.

The composting process involves the breakdown of organic material by aerobic bacteria in the presence of oxygen. The provision of oxygen (or aeration) is a key component in the composting process. Traditional composting utilizes an open windrow process, which involves placing organic material into elongated open piles ("windrows") and using equipment to regularly turn the material to provide adequate air flow. A forced air system, or aeration system, would utilize technology to provide a consistent source of oxygen for the composting process. Aeration systems not only provide more efficiency but can also reduce the space and time needed for the process. Constant airflow has the potential to provide significant odor control by maintaining aerobic conditions, thereby reducing the potential for anaerobic conditions that cause odors. Aeration systems can also reduce volatile organic compound (VOC) emissions that would otherwise escape into the atmosphere. In 2011, the SJVAPCD implemented Rule 4566, a measure to control VOC emissions from composting operations. Aeration systems are considered an approved technology for VOC reduction under Rule 4566. The aeration system would include a bio-filter and/or bio-cover of cured compost in compliance with Rule 4566.

Similar to the aerated composting process detailed above, an eASP composting system utilizes air forced through abutting rows of feedstock during the active composting phase. Adding an aeration system only changes the active composting phase. The shape would depend on the selected technology, but typically the high efficiency of aeration systems allows for larger active composting piles. As proposed, the composting piles would have a maximum height and slope to provide for the best aeration depending on the design of the final system selected. Active composting is proposed to take place over 28 days. The material would be moisture conditioned and kept at the appropriate temperatures for pathogen reduction. During the composting process, a temperature probe would be used to take measurements daily to ensure minimum temperature standards are maintained per 14 CCR Section 17868.3. In order to meet these requirements, a temperature of 131°F must be maintained for a period of at least 3 days.

Figure 3-6, *Composting Facility Site Layout*, and **Figure 3-7, *Typical Pile Layout*, illustrate a detailed site plan for the composting operation.**

Site Preparation

In preparation for the composting operation, the Pit E area of the site would undergo final closure construction. This would be completed by partially excavating the material in Pit E, recompacting, and sealing the closure cover with clay soil found on-site to provide a stable

surface for heavy equipment to operate. The areas adjacent to Pit E, as seen on **Figure 3-5, 2013 Site Plan**, currently used for overburden storage, would be graded and compacted to provide a level surface for composting operations during the proposed Phases 2 and 3 (see **Figure 3-6, Composting Facility Site Layout**, and **Figure 3-7, Typical Pile Layout**). Additional site improvements may be required by the State Water Resources Control Board (SWRCB) as part of the approval process for this project. The facility currently has site-specific WDRs. These would need to be revised to reflect operational changes associated with this project and additional regulatory requirements imposed by the SWRCB. Existing facility components, such as truck scales and a rinsate system, would be utilized for composting operations as well as ongoing landfill operations.

Construction

The project proponent proposes the construction of an eASP composting system on 136.2 acres in the general area of Pit E (including the areas adjacent to Pit E that are currently used for overburden storage) and would include infrastructure to force air flow into compost material during the active compost phase. At full buildout, the composting facility would include 240 compost pads (active composting piles and compost curing piles) and would be capable of accepting up to 640,000 TPY of compostable materials, including green waste, herbivore manure, food material, digestate, Class A and B biosolids, and wood waste. Installation of the full composting system would be implemented in three phases. The construction schedule would depend on demand for compost, but it is assumed that the construction of all three phases would be complete no later than 2030. Construction of Phase 1 would occur in 2020, or soon thereafter, Phase 2 would occur in 2025, and Phase 3 would occur in 2030. The infrastructure for each phase would take approximately 30 to 60 days to complete and would become operational once approvals have been obtained. Construction of the composting facility would consist primarily of site grading, excavating retention ponds, and installing solar-powered blowers and manifold systems for aerating compost piles.

Construction Workforce and Traffic

Construction of the project would require the use of on- and off-road vehicles and equipment similar to those needed for operation of the composting facility and which are currently utilized for landfill operations. Construction equipment would include water trucks, wheel loaders, front-end loaders, rollers, and compactors.

It is anticipated that 11 additional employees would travel to the site each day during construction. Full buildout of all three phases is anticipated to occur over a total of 67 non-consecutive weeks of construction requiring 12,149 commuter trips and 72 on-road truck trips.

Construction Water Use

Water use for construction of the composting facility would primarily be used for dust suppression during excavation, grading, and compaction. A new sanitary water supply would not be needed for the project because a sanitary water system is currently utilized for the existing landfill and mining operations, which would continue to be used for construction of the composting facility.

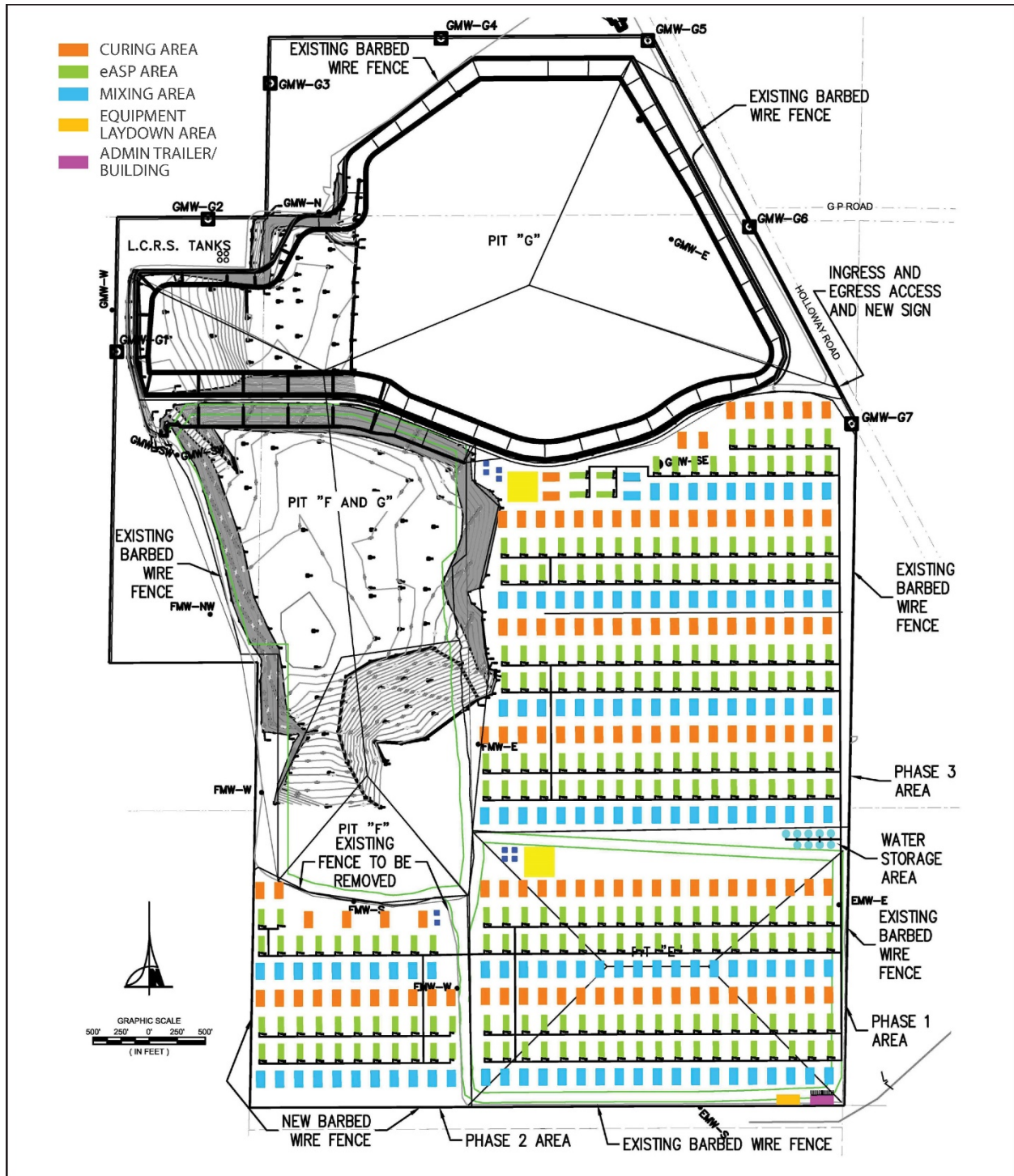


Figure 3-6
Composting Facility Site Layout

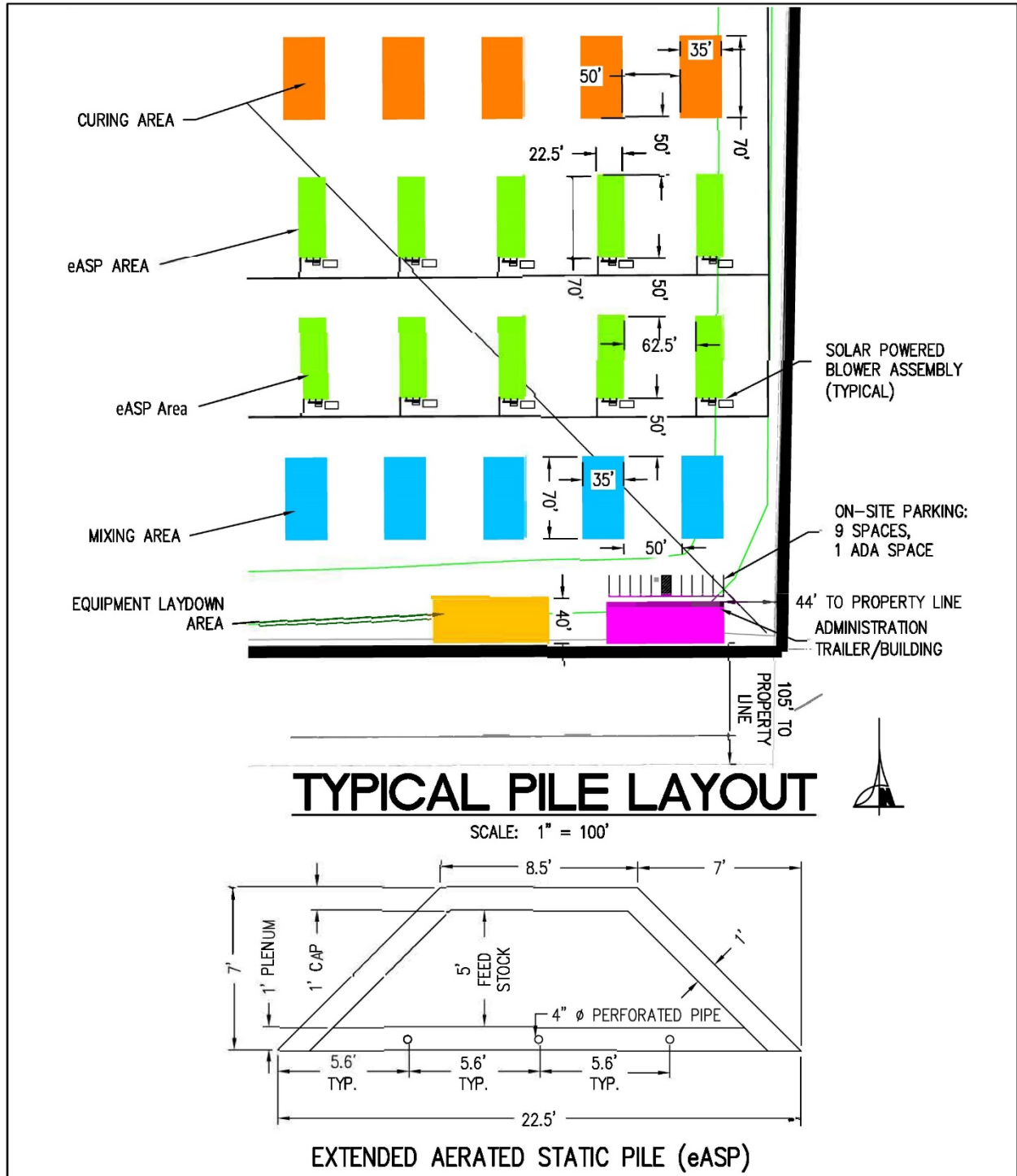


Figure 3-7
Typical Pile Layout

The overall construction water usage is anticipated to be approximately 9,160 gallons per day (GPD) for Phase 1, 4,090 GPD for Phase 2, and 13,250 GPD for Phase 3, totaling 26,500 GPD. Water demand during construction is expected to be the same if the project is constructed during a year with normal precipitation, a year with less-than-average precipitation, or a multi-year period of less-than-average precipitation. Non-potable water would be supplied through a water purchase agreement with Buena Vista Water Storage District (BVWSD) and delivered to the project site by the existing piping system. It would then be stored in existing on-site tanks.

Solid and Non-Hazardous Waste

The project may produce a small amount of solid waste from construction activities associated with the landfill facility. This may include paper, wood, glass, plastics from packing material, waste lumber, scrap metal and concrete, empty non-hazardous containers, and vegetation waste. This waste would be segregated for recycling. Non-recyclable materials that are within the project's allowable waste streams would be disposed of on-site at the existing landfill; materials not approved for disposal on-site would be disposed of at the closest waste disposal site that accepts the material types, which is the Shafter-Wasco Sanitary Landfill, located approximately 22 miles from the project site. This landfill accepts most types of waste, with the exception of hazardous waste, hot ashes, liquids of any kind, and non-friable asbestos.

Hazardous Materials

Because construction of the composting facility primarily involves excavation, grading, and compacting the existing site, hazardous materials would be typical of most construction projects of this type. The existing landfill is a Class III non-hazardous waste facility, so excavation is unlikely to result in exposure of hazardous waste. Materials used during construction would include small quantities of gasoline, diesel fuel, oils, lubricants, glues, solvents, detergents, degreasers, paints, ethylene glycol, dust palliative, and herbicides. A hazardous materials business plan would be provided to the Kern County Environmental Health Services Division/Hazardous Materials Section. The hazardous materials business plan would include a complete list of all materials used on-site and information regarding how the materials would be transported and in what form they would be used. This information would be recorded to maintain safety and prevent possible environmental contamination or worker exposure. During project construction, safety data sheets for all applicable materials present at the site would be made readily available to on-site personnel.

Hazardous Wastes

Small quantities of hazardous wastes would most likely be generated over the course of construction. These wastes may include waste paint and glue, spent construction solvents, waste cleaners, waste oil, oily rags, and waste batteries. Workers would be trained to properly identify and handle all hazardous materials. Hazardous waste would be either recycled or disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous waste transported off-site for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler and disposed of at an approved location.

Additional Waste Streams for Composting

The project proponent is requesting to accept a maximum of 640,000 TPY of composting feedstock comprised of the following: green waste, herbivore manure, food material, wood waste, digestate, and Class A and B biosolids, as listed in **Table 3-4, Proposed Compost Feedstock**. The project proponent proposes a blanket tonnage limit of 1,753 TPD for all approved composting feedstocks. This would allow for operational flexibility to combine various feedstock types and quantities to create the highest quality product, without the constraint of sub-limits for specific types of compostable feedstock materials. In addition, specific tonnage limits could impede on goals to divert organic materials from the landfill.

Table 3-4 Proposed Compost Feedstock

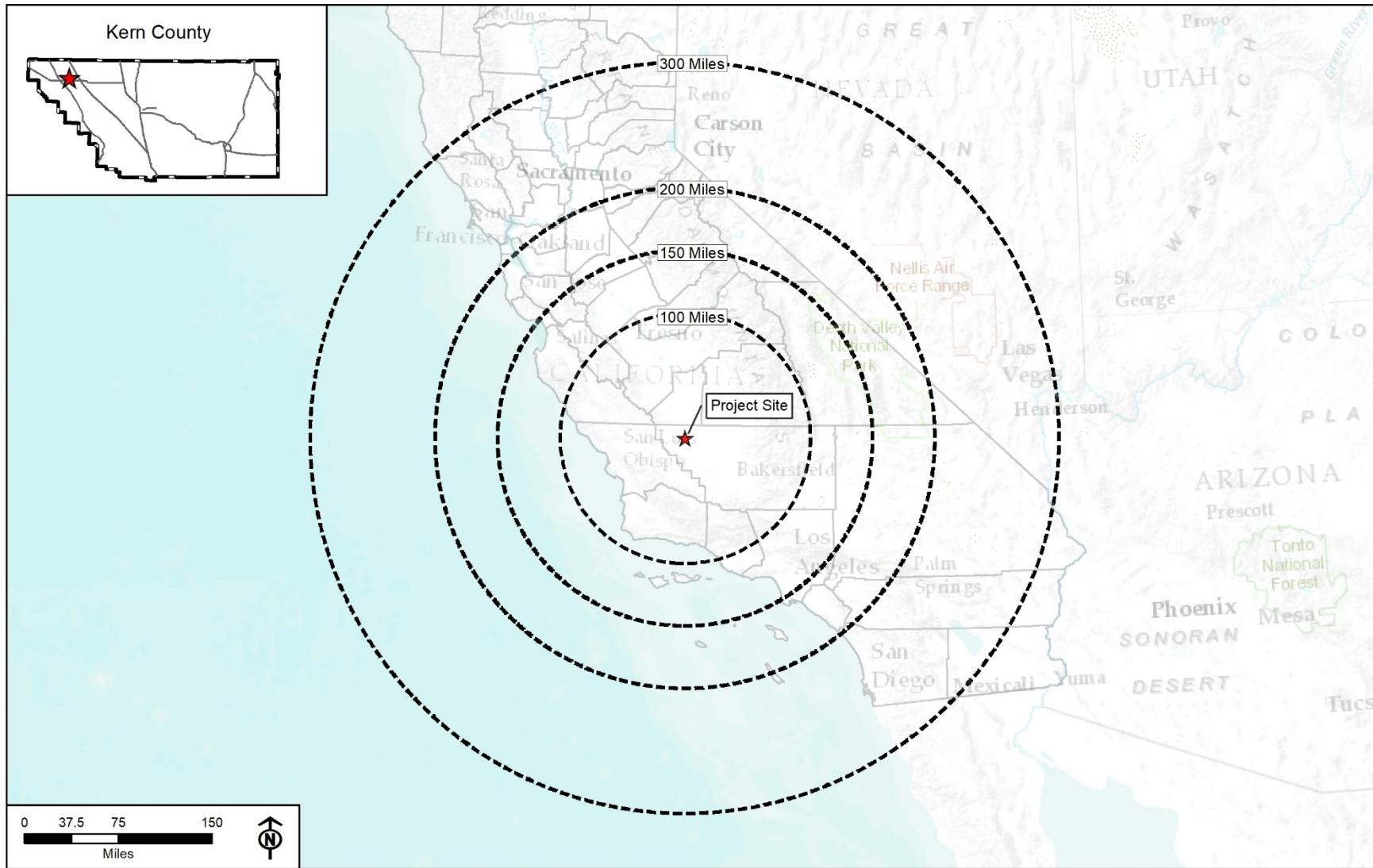
Organic Feedstock ¹		Wood Waste ²
<ul style="list-style-type: none"> • Class A and B Biosolids • Excess green matter • Pistachio and almond hulls • Grass, branches, and leaves • Other plant matter • Anaerobic digestate • Winery pulp 	<ul style="list-style-type: none"> • Cannabis/marijuana/hemp discards • Fats, Oils, and Greases (FOG) • Food • Paper and cardboard • Poultry manure and processing material • Cattle/livestock manure • Crop residue 	<ul style="list-style-type: none"> • Woody biomass • Dimensional lumber

¹ Feedstock: The raw material used for chemical or biological processes. For example, feedstock used for making compost could include grass clippings, leaves, food scraps, plant trimmings, straw, and animal bedding.

² Wood waste: Solid waste consisting of wood pieces or particles that are generated from the manufacturing or production of wood products, harvesting, processing, or storage of raw wood materials, or construction and demolition activities.

Table 3-4 identifies the proposed feedstock for the composting facility. Incoming feedstock material would primarily come from locations within a 150-mile radius of the project site, which is identified in **Figure 3-8, Radius Map**. Biosolids and manure would be accepted from various producers within the 200-mile radius, and wood and green waste would be primarily accepted from Kern County farmers and the City of Bakersfield Mt. Vernon Recycling and Compost Facility. Most of the material would be transported to the proposed facility in long-haul trucks. Incoming material may also be delivered directly by route haul trucks, transfer long hauls, or commercial haulers from Kern County and other surrounding communities.

Feedstock receipt and composition would vary from day to day based on seasonality, market conditions, customer participation, etc. The various types of feedstock materials are typically combined to achieve optimal carbon-nitrogen ratio, moisture levels, and porosity. The best practice for the composition of balanced compost is to combine one- to two- parts green waste per one-part food waste because food waste provides more moisture and green waste provides better porosity. Feedstock materials such as wood waste are typically high carbon ingredients, whereas food waste, green waste, biosolids, and manure are high-nitrogen ingredients.



**Figure 3-8
Radius Map**

Operations

The proposed 640,000 TPY composting operation would be constructed in three phases over an approximately 10-year timeframe, depending on market demand. **Table 3-5**, *Compost Area Organic Feedstock Tonnage and Sites per Phase*, below, shows the breakdown of acreage, number of composting sites (rows), and tonnage of organic feedstock. An equal amount of wood waste would be accepted for each phase and full buildout.

Phase	Area (acres)	Composting Sites (rows)	Tons per Year*
1	47.3	76	101,308
2	21.2	34	45,322
3	67.7	130	173,290
Total at Full Buildout	136.2	240	319,920

* Not including equal amount of wood waste.

At full buildout, the composting process would take place on 240 composting sites in the facility. Each composting site would be equipped with a pair of 1.5-horsepower blower motors powered by a small array of solar cells with a backup battery supply. The blowers would be connected to a manifold that would lead to three 4-inch perforated pipes that would run down the center of the compost pile. These pipes would be covered with approximately 1 foot of woody biomass material. The goal is to create an aeration zone beneath the active compost pile that allows for uniform airflow up through the active compost material.

All compostable materials would be chipped and ground off-site, and then trucked to the site and off-loaded in a mixing area adjacent to the composting sites. It is expected that a 50/50 mixture by volume of woody biomass to organic feedstock would be mixed with a Scarab-style windrow turner. The mixture would then be moved to the composting row via a front-end loader. On top of the aeration zone, the 50/50 mixture would be placed into cells 70 feet long and 22.5 feet wide with a height between 5 to 9 feet, containing approximately 318 cubic yards of material. It is assumed that the organic feedstock and wood waste would have sufficient moisture to begin the composting process, and additional moisture would not need to be added during the mixing process. After the pile has been mixed and formed, the pile would be covered with a 1-foot-deep layer of cured compost, which would act as a biofilter. The layer would be put in place by the front-end loader that formed the pile, assisted by an additional loader with a rake attachment to spread the cured compost over the top of the pile. This biofilter layer would serve to reduce the volatile organic compound (VOC) emissions from the compost pile. After the pile has been covered, a sprinkler system would be placed along the top of the pile to maintain the moisture in the top layer.

Instead of turning, as is used in traditional windrow composting, proper oxygen would be provided by the solar-powered, forced aeration system. The piles would be aerated by the blower motors for 2 minutes out of every 20 minutes and the sprinklers would run approximately every 4 hours to maintain proper moisture content. After the initial 28 days of composting, the piles would then be scooped up with a front-end loader and flipped into a new

pile in the designated compost curing area to cure. To reduce the chances of contamination of the composted pile, a separate front-end loader designated to move only cured compost would be used for this operation. The pile would then be left to cure for an additional 28 days. The curing process helps bring compost to full maturity. Each pile would then be tested for pathogens prior to being moved to the finished compost stockpile after curing is complete. The material would then be screened on a trommel screen for material size sorting and used as cover for new eASP rows or shipped off-site for bulk sale.

Operation Workforce and Traffic

At full build out, the composting facility would employ between nine and 12 full-time employees. Periodic additional trips for miscellaneous business activities and laboratory services would also be required. Employees would access the composting site at the existing entrance points along the west side of Holloway Road or would access the administrative office and parking area at existing entrance points along the east side of Holloway Road.

Operation Water Use

Additional water supply would be needed for operation of the composting facility. Beyond what is already being utilized by the existing landfill facility, it is anticipated the composting operation would have a water demand of approximately 20.5 acre-feet (AF) per month at full buildout. Water would be piped in from off-site wells and stored in 100,000-gallon tanks. The breakdown of expected water usage per phase of operation is shown in **Table 3-6, Composting Facility Water Demand**.

Table 3-6 Composting Facility Water Demand

	Phases			
	1	2	3	Full Buildout
# of active piles	76	34	130	240
Gallons per day for eASP	60,800	27,200	104,000	192,000
Gallons per day for dust control	9,160	4,090	13,250	26,500
Total Water Demand per day (gallons)	68,960	31,290	117,250	217,500
Total Water Demand per month (gallons)	2,097,550	951,750	3,566,350	6,615,650
Total Water Demand per month (AF)	6.5	2.9	11.0	20.5
Total Water Demand per year (AF)	78	35	132	244

Source: Bowen 2020

Water for composting operations would primarily be used for maintaining the proper moisture content of the biofilter layer of the compost piles and the top layer of the curing piles to control VOC emissions from the composting process. The optimum amount of water to place on the piles is expected to be approximately 130 gallons per ton or 2.2 cubic yards of compost material. It is estimated that each pile would require 0.07 AF of water per month to maintain optimum moisture levels. Water would also be required to control dust generated by trucks hauling feedstock to the project site and compost away from the project site, as well as on-site equipment moving around the piles.

Solid and Nonhazardous Waste

The project may produce a small amount of waste associated with composting activities, which could include non-organic waste screened out of organic feedstock materials, broken plastic manifold pieces, defective or malfunctioning solar panels and blower motors, empty containers, and other miscellaneous solid waste, including the typical refuse generated by workers. Solid waste, if generated during operation, would be subject to applicable disposal methods. Construction waste and other solid waste would be separated for recycling where possible/available. Non-recyclable waste would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill. The closest Class III municipal landfill is the Shafter-Wasco Sanitary Landfill.

Vehicle Limit

The landfill facility's existing CUP currently allows waste to arrive at the facility at a rate of 91 trucks per 24-hour period. Truck trips for landfill waste streams would remain unchanged under the proposed project. The project proponent is requesting to increase daily truck trips for the delivery of feedstock materials for composting and removal of finished compost for off-site sale. The composting facility would accept up to 111 trucks per day bringing in compostable materials at full buildout. Finished compost is proposed to be hauled out at a rate of up to 111 trucks per day at full buildout.

The following truck trip counts are proposed for each phase of operation, as shown in **Table 3-7, Daily Vehicle Traffic Counts**, which is further analyzed in applicable technical report(s) and in Section 4.15, *Transportation and Traffic*, of this EIR.

Process/Phase	Vehicle Count	Approved/Proposed
Landfill	91	Approved
Composting Phase 1 Incoming	35	Proposed
Composting Phase 2 Incoming	16	Proposed
Composting Phase 3 Incoming	60	Proposed
Finished Compost Outgoing (no phasing)	111	Proposed
Total Maximum Vehicle Count at Full Buildout	313	Proposed

Finished Compost Product Sold

At full buildout of the composting facility, it is expected that 50 to 111 25-yard truck loads of finished material would be removed from the site per day. A large portion of outgoing finished compost material would be shipped to agricultural customers within Kern County. The facility may occasionally haul finished compost material to customers outside of Kern County, using the same 150-mile radius as identified in **Figure 3-8, Radius Map**, for inbound feedstock materials.

3.6.2 Class III Solid Waste Disposal Landfill

Site A has been used as a landfill facility since 1997 and, prior to that, as the H.M. Holloway Gypsum Mine. The landfill is a Class III non-hazardous industrial waste landfill with a waste containment system made up of naturally occurring geologic materials that have been conditioned to prevent the migration of waste constituents to groundwater and to convey leachate to the leachate collection sump, a leachate collection and removal system drainage layer consisting of either appropriate selection geologic materials and a geonet/geocushion, and an operations layer designed to protect the leachate collection and removal system. This project proposes the following modifications to the existing landfill facility, which are discussed in detail below:

- Allowance for additional waste streams for acceptance and disposal at the landfill; and
- An extension of the hours of operation to 24 hours per day, 365 days per year.

Waste Streams for Landfill

The project proponent is requesting to modify the CUP to allow an increase in the allowable waste streams for acceptance at the landfill, as shown in **Table 3-8, Proposed Landfill Waste Streams to be Permitted Under the Proposed Project**. The CUP currently allows for acceptance of up to a total of 2,000 TPD, in any combination, of the following waste streams: Class A and B Biosolids, Fly Ash, Treated Auto Shredder Waste, and Lime Filter Cake. Per WDR Order R5-2010-0123, it has been demonstrated that the landfill's site characteristics alone, without a liner, meet the performance goal contained in 27 CCR 20310 and would not impair the beneficial uses of the surface water or groundwater beneath or adjacent to the landfill in accordance with 27 CCR 20260(b)(1). Incoming materials that are mandated for diversion by CalRecycle regulations would be diverted, as feasible, to either the composting facility or bioenergy facility. The project proponent is not requesting an increase in daily tonnage limits of waste streams coming to the landfill; however, it should be noted the maximum daily tonnage coming to the facility would increase to 3,753 TPD to accommodate both landfill disposal and composting operations.

In addition to the materials listed in Table 3-8, waste types that may be considered for disposal in the future are listed in **Table 3-9, Waste Materials for Future Consideration**. Currently, the project proponent is not requesting to include the acceptance of these materials for disposal in the proposed Modification #2 to CUP #9, Map 28. However, dependent on future market demands and the regulatory environment, the project proponent may request an additional modification to CUP #9, Map 28 to include some, or all, of these materials for disposal. Therefore, this EIR evaluates the potential impacts from acceptance and disposal of the materials listed in both **Table 3-8, Proposed Landfill Waste Streams to be Permitted Under the Proposed Project**, and **Table 3-9, Waste Materials for Future Consideration**.

Table 3-8 Proposed Landfill Waste Streams to be Permitted Under the Proposed Project

Currently Permitted Materials for Disposal	Additional Materials Proposed for Disposal	Additional Materials Proposed for Alternative Daily Cover	Additional Materials Proposed for Beneficial Use On-site
<ul style="list-style-type: none"> • Class A and B biosolids • Treated auto shredder waste • Cogeneration ash (fly ash) • Spent sand blast media • Lime filter cake 	<ul style="list-style-type: none"> • Drill cuttings • Slag • Granulated silica • Compost-derived waste • Non-compostable winery pulp/waste • Destructed cannabis/marijuana (including consumables) • Wastewater grit • Poultry waste (non-manure) • Digestates • Industrial sand-based waste • Shredded polyvinyl chloride (PVC) pipe • Dead animals • Non-friable asbestos • Wastewater sloughing 	<ul style="list-style-type: none"> • Fly ash • Auto shredder waste • Pistachio shells/hulls • Almond shells/hulls • Construction and demolition • Compost • Green material • Contaminated sediment • Biosolids • Dirt • Clay • Silt 	<ul style="list-style-type: none"> • Clean asphalt • Concrete • Combination rock • Gravel • Brick • Asphalt grindings

Table 3-9 Waste Materials for Future Consideration

<ul style="list-style-type: none"> • Paper and cardboard • Drywall • Flooring • Roofing materials • Tile and windows • Clean dirt • Clay 	<ul style="list-style-type: none"> • Silt clean asphalt • Concrete • Combination rock • Concrete with rebar • Gravel • Brick • Asphalt grindings 	<ul style="list-style-type: none"> • Food waste • Dimensional lumber • Pistachio hulls • Construction and demolition • Wood and • Wood waste 	<ul style="list-style-type: none"> • Green waste • Combination wood • Almond hulls • Grass • Branches and leaves • Other plant matter • Excess compost
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Ancillary Operations/Facility Operating Hours

As allowed by CUP #9, Map 28, the existing facility operates from 6:00 a.m. to 4:00 p.m., 7 days per week. Employees are on-site 10 hours per day, and within a 24-hour period, there are currently 10 employees working at the facility. The project proposes to increase the facility’s hours of operation to 24 hours per day, 365 days per year to meet demand and minimize the amount of daytime traffic. Lighting would be provided by portable flood lights attached to a generator. Lights would be oriented downward in such a manner to minimize the impact to dark skies. Lights would face away from the publicly traveled Holloway Road, and would only be used in areas that were actively being worked, not the entire facility.

3.6.3 Bioenergy Facility

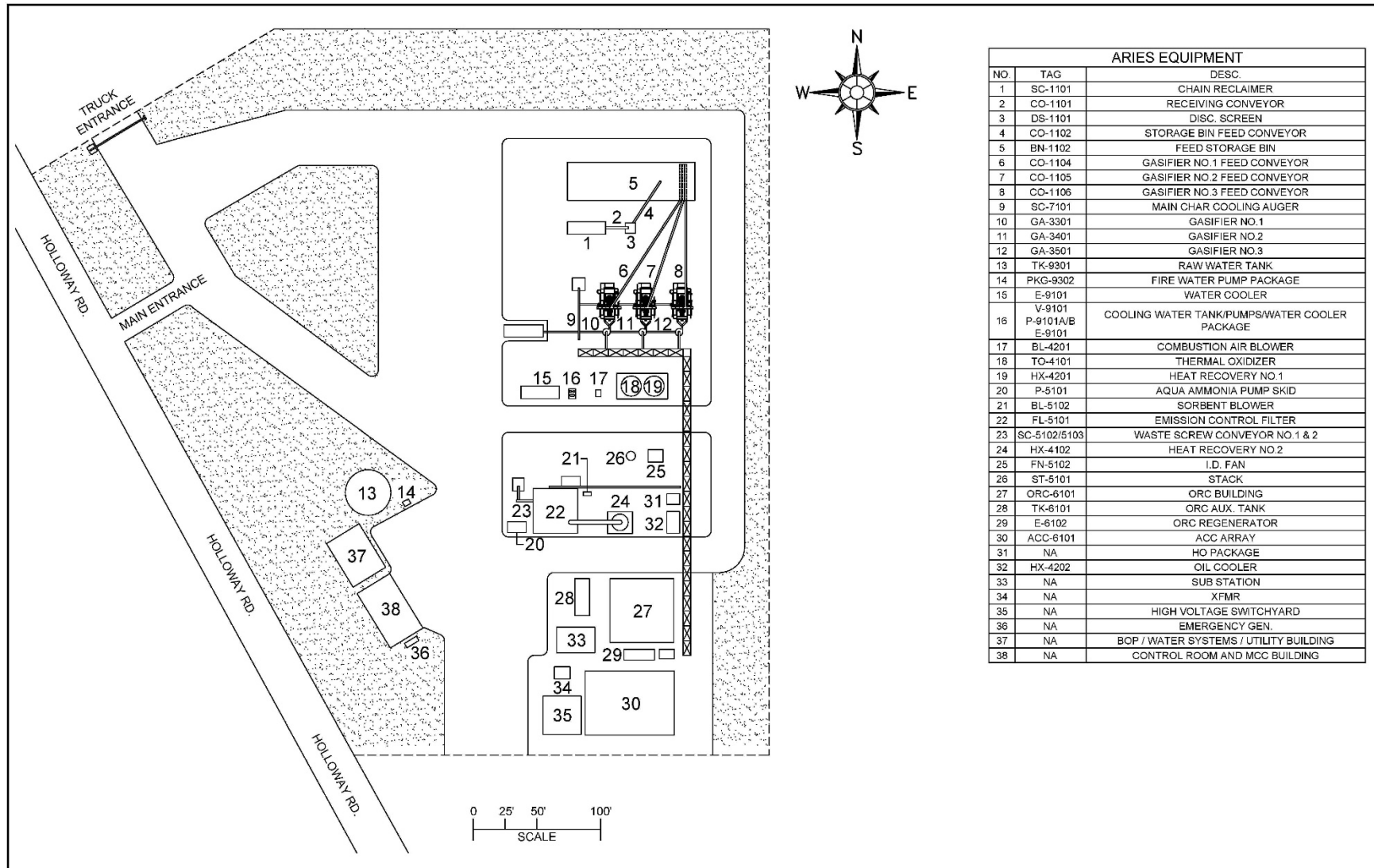
The bioenergy project component involves the construction and operation of a renewable power plant, which would primarily utilize woody agricultural waste as a feedstock, to produce 3 MW (net) of electrical power for export to the grid via the Pacific Gas and Electric Company (PG&E) under the Bioenergy Market Adjusting Tariff (BioMAT) Program (Category 2 – Agricultural Feedstocks). The bioenergy facility would be located on Site B, which is comprised of a 6-acre parcel of land within the mining facility CUP boundary, located at 14045 Holloway Road in the community of Lost Hills. **Figures 3-9 through 3-15, *Bioenergy Facility Site Layout***, illustrate the detailed site plan for the bioenergy facility.

Project Characteristics

The bioenergy project component includes the construction and operation of a renewable power plant at Site B, which would primarily utilize woody agricultural waste as a feedstock to produce 3 MW (net) of electrical power for export to the grid via the Pacific Gas and Electric Company (PG&E) under the Bioenergy Market Adjusting Tariff (BioMAT) Program (Category 2 – Agricultural Feedstocks). The proposed bioenergy facility would be located on Site B, which is comprised of a 6-acre parcel of land within the Holloway Gypsum Mine CUP boundary.

The bioenergy facility would include a chain reclaimer, receiving and feed conveyors, storage bins, three gasifiers, a raw water tank, a fire water pump package, a water cooler, tank, and pumps; a combustion air blower; thermal oxidizer; heat recovery system; aqueous ammonia feed system; sorbent blower; emission control filter; waste screw conveyor; an induced draft (I.D.) fan; stack; array; oil cooler; substation; high-voltage switchyard; emergency generator; building operation, water systems, utility building; a control room and motor control center (MCC); and additional associated infrastructure and equipment as listed below and as shown on **Figures 3-9 through 3-15, *Bioenergy Facility Site Layout***:

- Instrument and plant air;
- Firewater and fire protection system;
- Water tank and plant water system;
- Potable water system and tank;
- Safety showers;
- Nitrogen storage area;
- Natural gas metering and supply;
- Storm water drainage;
- Process area drains and sump(s);
- Wastewater collection (in-mobile tanks) and reuse area;
- Fuel and chemical unloading and storage areas; and
- Generational Tie-Line.



ARIES EQUIPMENT		
NO.	TAG	DESC.
1	SC-1101	CHAIN RECLAIMER
2	CO-1101	RECEIVING CONVEYOR
3	DS-1101	DISC. SCREEN
4	CO-1102	STORAGE BIN FEED CONVEYOR
5	BN-1102	FEED STORAGE BIN
6	CO-1104	GASIFIER NO.1 FEED CONVEYOR
7	CO-1105	GASIFIER NO.2 FEED CONVEYOR
8	CO-1106	GASIFIER NO.3 FEED CONVEYOR
9	SC-7101	MAIN CHAR COOLING AUGER
10	GA-3301	GASIFIER NO.1
11	GA-3401	GASIFIER NO.2
12	GA-3501	GASIFIER NO.3
13	TK-9301	RAW WATER TANK
14	PKG-9302	FIRE WATER PUMP PACKAGE
15	E-9101	WATER COOLER
16	V-9101 P-9101A/B E-9101	COOLING WATER TANK/PUMPS/WATER COOLER PACKAGE
17	BL-4201	COMBUSTION AIR BLOWER
18	TO-4101	THERMAL OXIDIZER
19	HX-4201	HEAT RECOVERY NO.1
20	P-5101	AQUA AMMONIA PUMP SKID
21	BL-5102	SORBENT BLOWER
22	FL-5101	EMISSION CONTROL FILTER
23	SC-5102/5103	WASTE SCREW CONVEYOR NO.1 & 2
24	HX-4102	HEAT RECOVERY NO.2
25	FN-5102	I.D. FAN
26	ST-5101	STACK
27	ORC-6101	ORC BUILDING
28	TK-6101	ORC AUX. TANK
29	E-6102	ORC REGENERATOR
30	ACC-6101	ACC ARRAY
31	NA	HO PACKAGE
32	HX-4202	OIL COOLER
33	NA	SUB STATION
34	NA	XFMR
35	NA	HIGH VOLTAGE SWITCHYARD
36	NA	EMERGENCY GEN.
37	NA	BOP / WATER SYSTEMS / UTILITY BUILDING
38	NA	CONTROL ROOM AND MCC BUILDING

Figure 3-9
Bioenergy Facility Site Layout

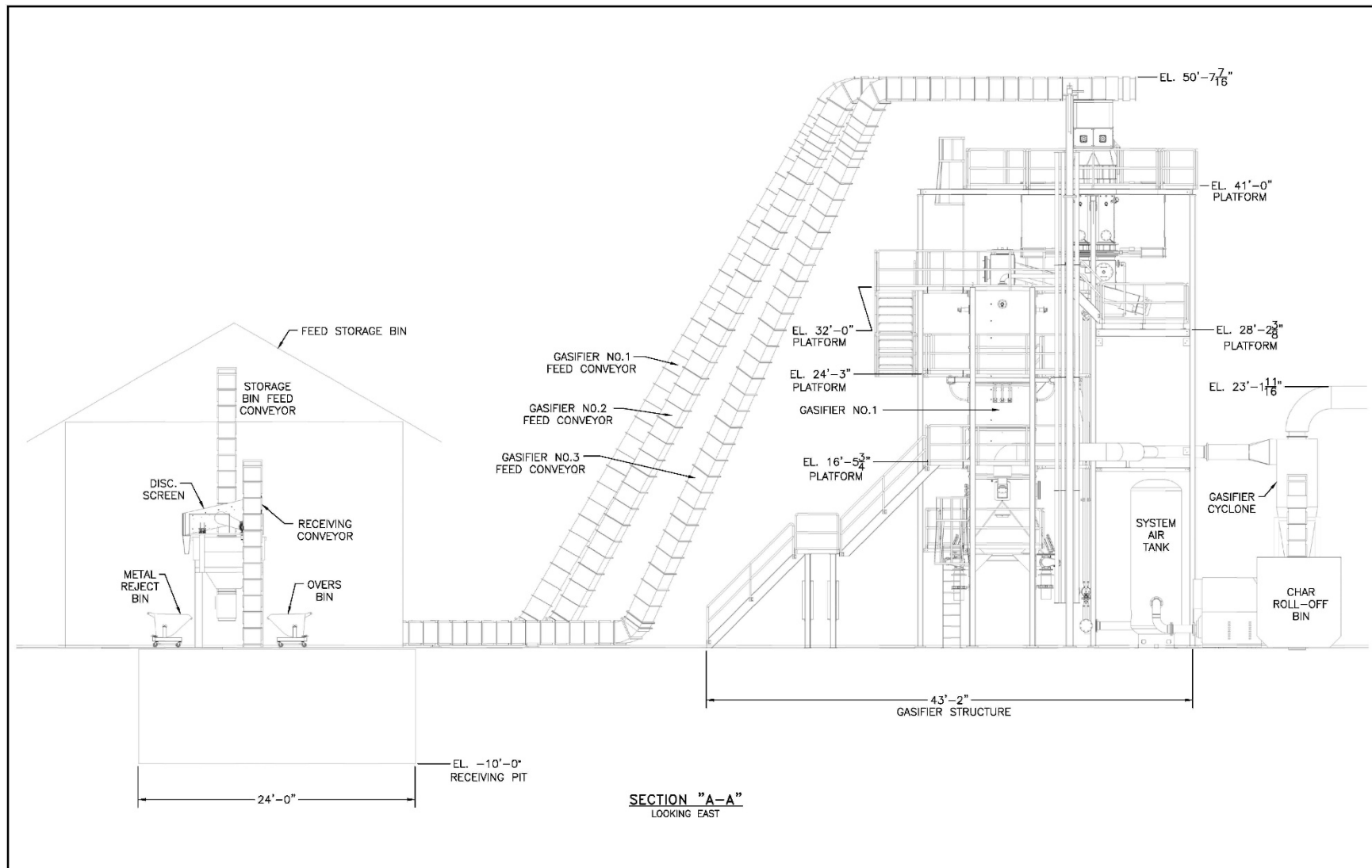


Figure 3-10
Bioenergy Facility Site Layout: Section A-A

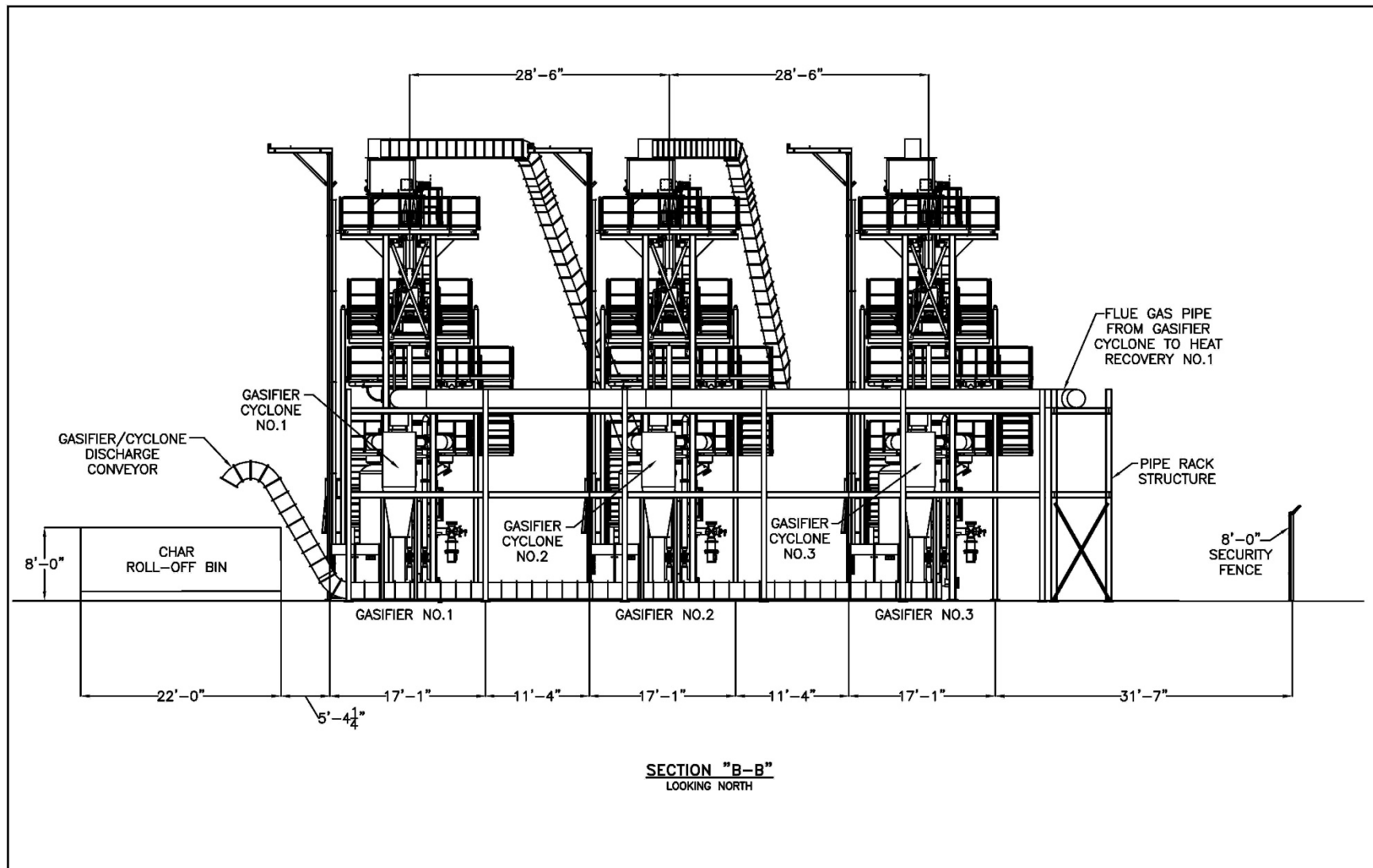


Figure 3-11
Bioenergy Facility Site Layout: Section B-B

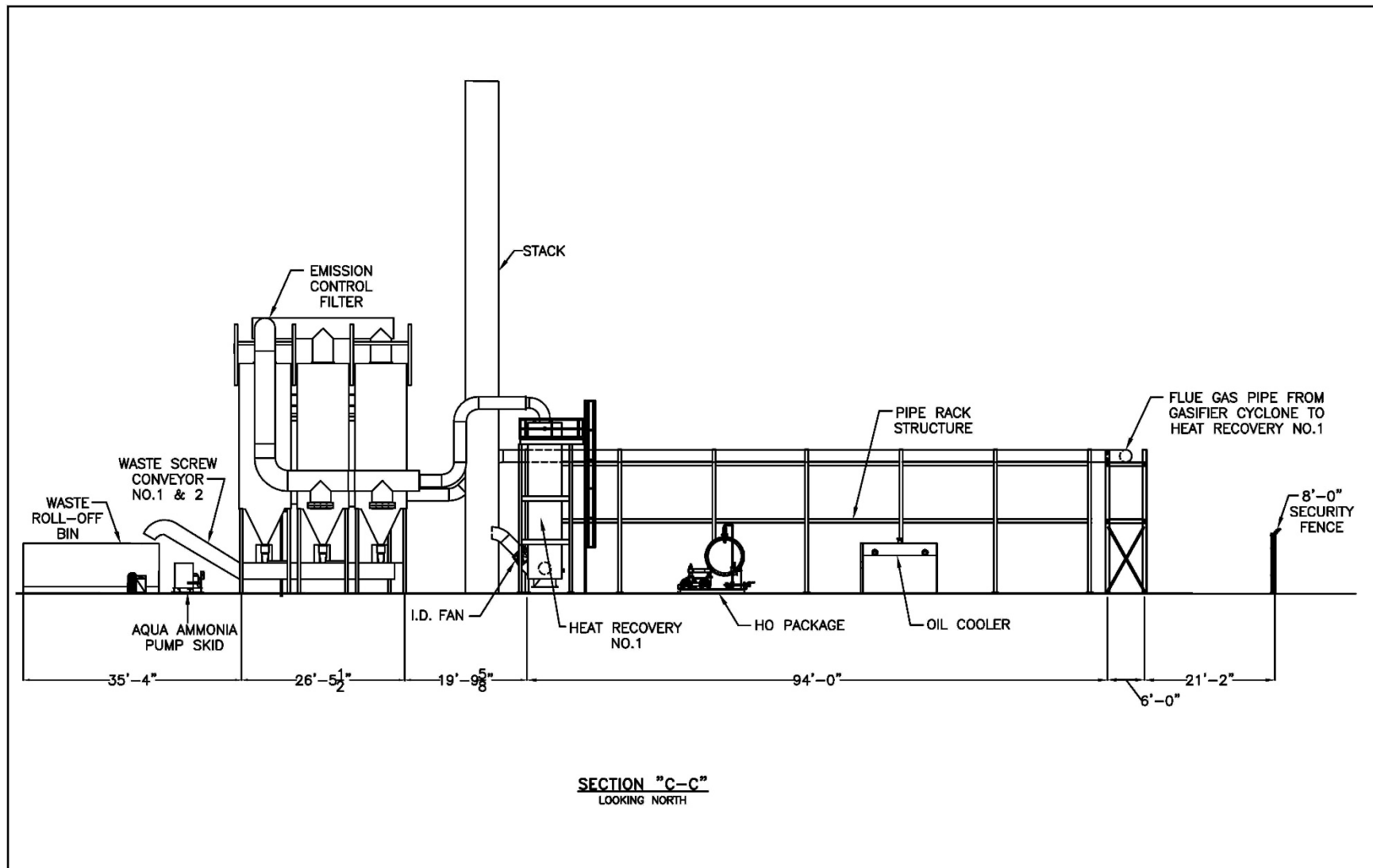


Figure 3-12
Bioenergy Facility Site Layout: Section C-C

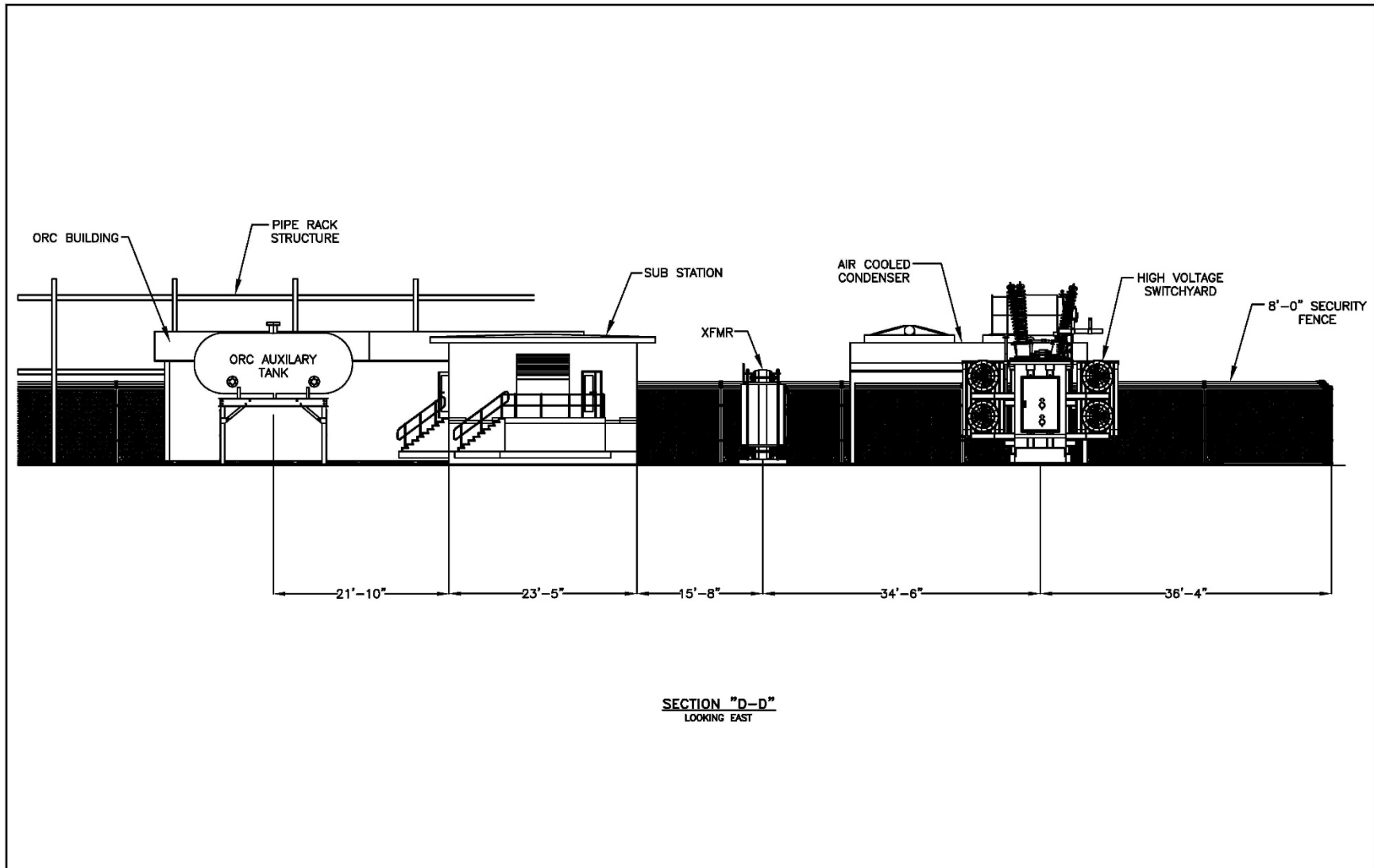


Figure 3-13
Bioenergy Facility Site Layout: Section D-D

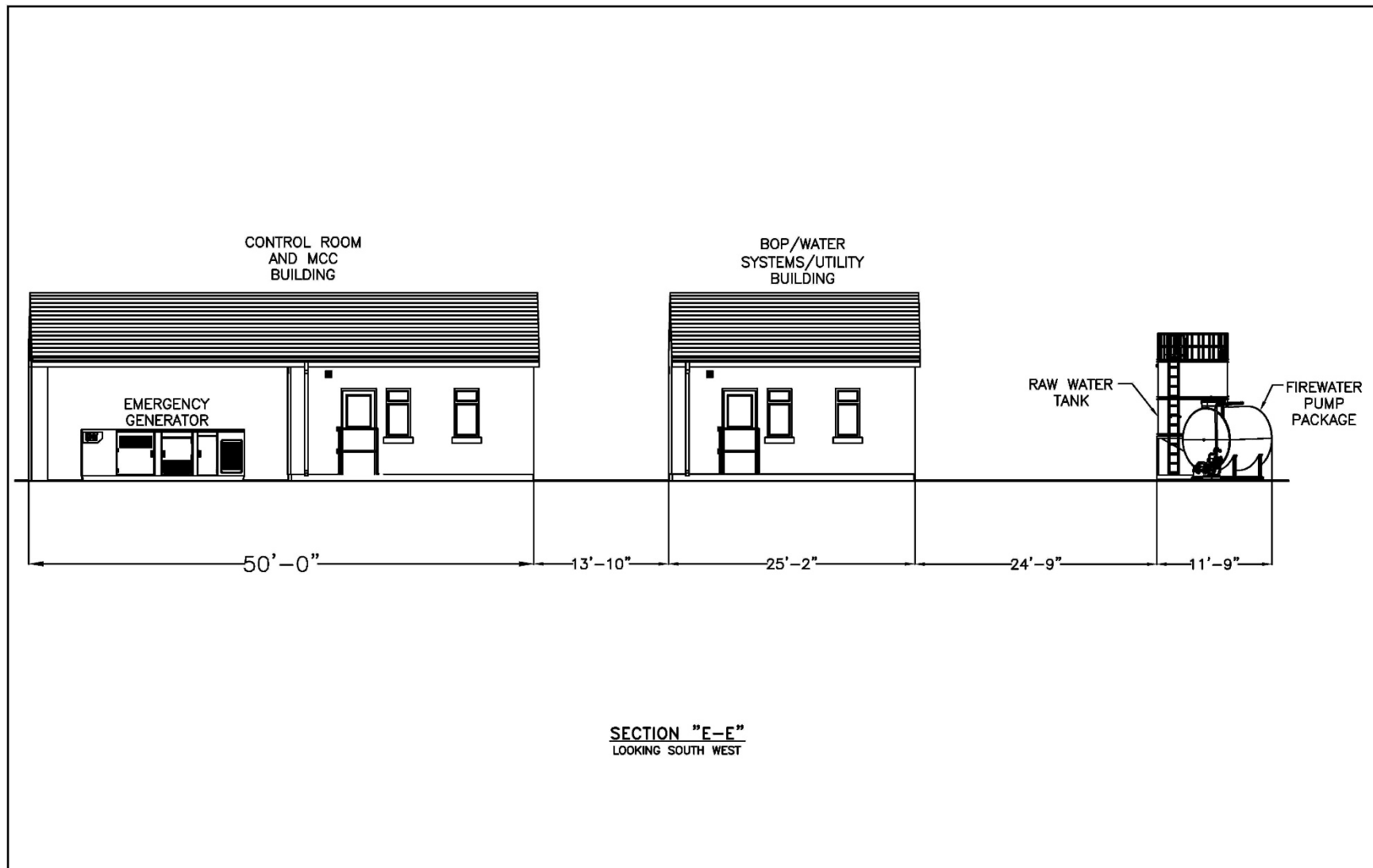


Figure 3-14
Bioenergy Facility Site Layout: Section E-E

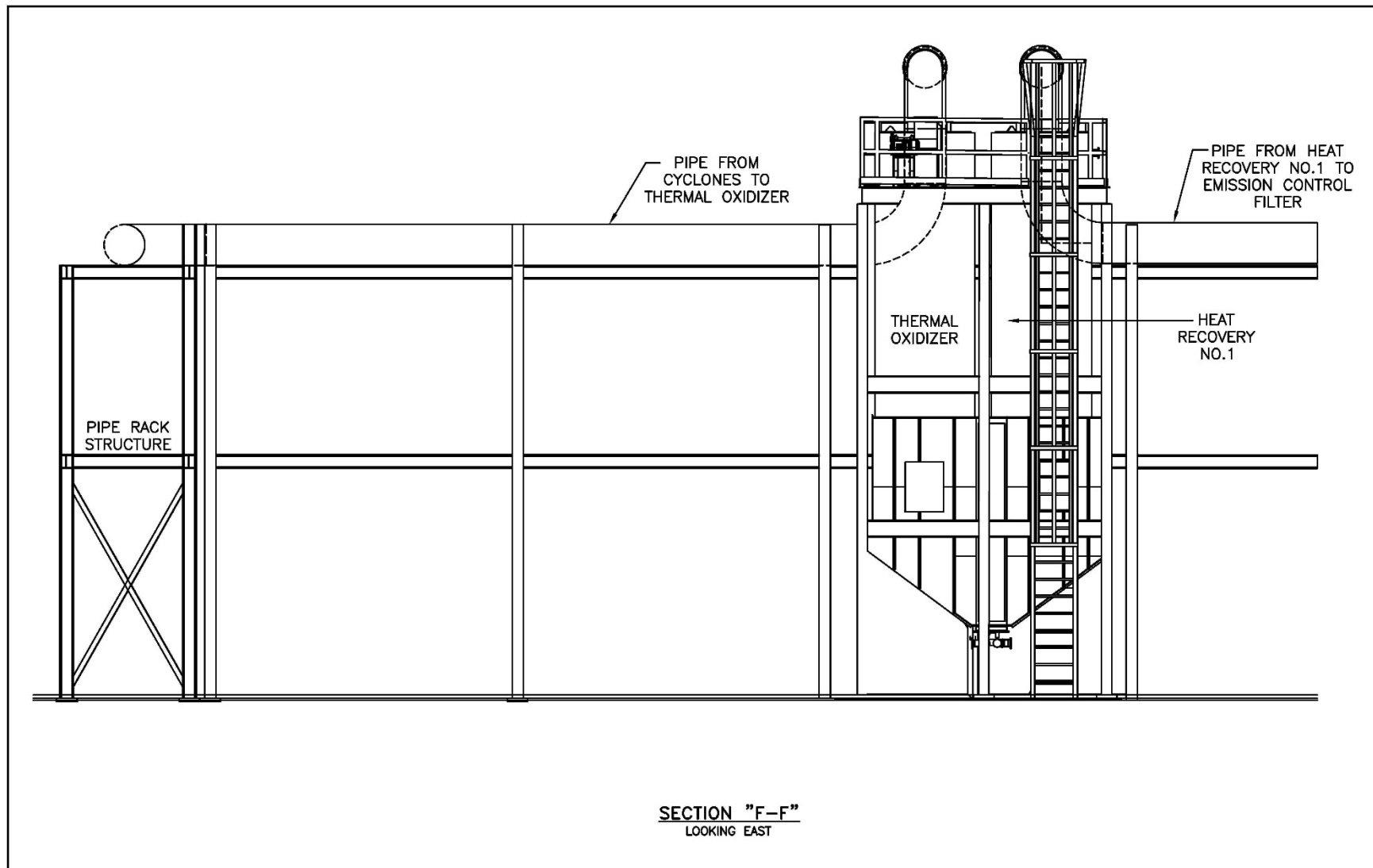


Figure 3-15
Bioenergy Facility Site Layout: Section F-F

Site Preparation

The bioenergy facility would be sited on previously disturbed land currently used for mine and landfill equipment storage. Site preparation would require grading and installation of a solid surface such as concrete or asphalt. A drainage system would be installed in compliance with RWQCB WDRs. Existing site access from Holloway Road would be paved in compliance with Kern County Public Works – Development Review Division requirements.

Construction

Construction of the bioenergy facility, and associated activities, would take approximately 11 months to complete and would begin as soon as the environmental review process is completed, and all permits necessary to construct and operate the facility are obtained. Construction activities would be conducted in accordance with applicable local noise standards (i.e., construction activities will not take place before 6:00 a.m. or after 9:00 p.m. on weekdays and before 8:00 a.m. or after 9:00 p.m. on weekends).

Equipment

Construction of the bioenergy facility would require the use of on- and off-road vehicles and equipment, including water trucks, wheel loaders, front-end loaders, rollers and compactors, paving equipment, and trucks delivering facility equipment.

Construction Water Use

Water use for construction of the bioenergy facility would primarily be used for dust suppression during site preparation. The overall construction water usage is anticipated to be approximately 3,900 GPD for the bioenergy facility.

Solid and Nonhazardous Waste

Construction of the bioenergy facility may produce a small amount of solid waste such as paper, wood, glass, plastics from packing material, waste lumber, scrap metal and concrete, empty non-hazardous containers, and vegetation wastes. This waste would be segregated for recycling. Non-recyclable materials that are within the project's allowable waste streams would be disposed of on-site at the existing landfill; materials not approved for disposal on-site would be disposed of at the closest waste disposal site that accepts the material types, which is the Shafter-Wasco Sanitary Landfill, located approximately 22 miles from the project site. This landfill accepts most types of waste, with the exception of hazardous waste, hot ashes, liquids of any kind, and non-friable asbestos.

Hazardous Materials

Hazardous materials associated with construction of the bioenergy facility would be typical of most construction projects of this type. The existing landfill is a Class III non-hazardous waste facility, so ground disturbance is unlikely to result in exposure of hazardous waste. Materials used during construction would include small quantities of gasoline, diesel fuel, oils, lubricants,

glues, solvents, detergents, degreasers, paints, ethylene glycol, dust palliative, and herbicides. A hazardous materials business plan would be provided to the Kern County Environmental Health Services Division/Hazardous Materials Section. The hazardous materials business plan would include a complete list of all materials used on-site and information regarding how the materials would be transported and in what form they would be used. This information would be recorded to maintain safety and prevent possible environmental contamination or worker exposure. During project construction, safety data sheets for all applicable materials present at the site would be made readily available to on-site personnel.

Hazardous Waste

Small quantities of hazardous waste may be generated during construction of the bioenergy facility. This waste may include waste paint and glue, spent construction solvents, waste cleaners, waste oil, oily rags, and waste batteries. Workers would be trained to properly identify and handle all hazardous materials. Hazardous waste would be either recycled or disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous waste hauled off-site for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler and disposed of at an approved location.

Feedstocks

Feedstocks would include up to 165 TPD of orchard and vineyard prunings, cannabis and hemp/marijuana residue, woody arbor waste and chipped branches, stumps, and whole trees sourced from agricultural operations and diverted from green waste processing facilities. Some almond and pistachio nut shells/hulls and digestates could also be included in the feedstock mix. Feedstocks would not contain paints, treated lumber/timber, or toxic materials. As the BioMAT Program requires that at least 80% of the sourced feedstock is sourced from agricultural operations, it is possible that up to 20% of the feedstock could be sourced from non-agricultural sources, including urban wood, forest biomass, urban prunings, and biosolids. Orchard removal trees are pushed over and allowed to dry in the field for approximately 4 weeks (to less than 20% moisture). After drying, the trees are ground in the field to a 3-inch depth minus specifications and the chips are loaded into tractor trailers for transport to the facility. Feedstocks are expected to be sourced in the San Joaquin Valley, within a 150-mile radius of the plant. Proposed biomass feedstocks for the bioenergy facility are shown in **Table 3-10, Proposed Bioenergy Facility Biomass Feedstocks.**

Table 3-10 Proposed Bioenergy Facility Biomass Feedstocks

- | | |
|--|--|
| <ul style="list-style-type: none"> • Agricultural/forestry/urban wood residue <ul style="list-style-type: none"> – Branches, stumps, and whole trees – Construction debris (untreated board waste) – Wood processing debris (untreated mill or board processing wood waste) – Cannabis and hemp waste – Pistachio and almond shells and hulls | <ul style="list-style-type: none"> • Other plant matter • Wastewater treatment plant biosolids <ul style="list-style-type: none"> – Class A – Class B • Digestates • Non-recyclable paper waste |
|--|--|
-

System Operations

Lost Hills Bioenergy, LLC proposes to install a three-train downdraft gasifier system designed to use agricultural waste as the feedstock. The gasification system converts the agricultural waste into a synthetic gas (syngas) by heating the waste in an oxygen-starved vessel (gasifier). The syngas is then combusted to produce thermal energy (hot air) that is used to drive an Organic Rankine Cycle (ORC) generator to produce 3 MW (net) of electricity. The electricity generated from the system would be delivered to the grid through a Power Purchase Agreement (PPA) with PG&E under the BioMAT Program.

The feedstock would be chipped and screened off-site prior to delivery and would be delivered to the site by self-unloading trailers. The feedstock would be conveyed into the gasification system to create syngas and biochar. The syngas would be sent to a Thermal Oxidizer (TO) where it would be combusted at approximately 1,800°F. The hot flue gas is used to heat a thermal fluid loop used to provide the energy to the ORC power generation unit. The hot flue gas is also used to preheat process air to the gasifiers.

The ORC utilizes an organic working fluid in a closed and sealed system. Heat transferred from the flue gas, via the heating oil, is used to vaporize the organic working fluid, which drives a turbine connected to a generator. The organic working fluid leaving the turbine is condensed in a bank of air coolers and pumped back to the closed loop. The ORC generator would produce 3 MW of electricity to be fed into the grid under the BioMAT Program.

The biomass remaining from the gasification process exits the system as biochar. The biochar is a carbon-rich product that can be used as a soil amendment in the Central Valley or be used for other sources. The estimated amount of biochar is approximately 10% by mass of the input feedstock. A summary of the bioenergy facility operations is provided in **Table 3-11, Bioenergy Facility Operations Summary**.

Table 3-11 Bioenergy Facility Operations Summary

Operation	Total Amount
Feedstock	165 tons/day
Power Generation (gross)	3.9 MW
Power Generation (net)	3.0 MW
Biochar Production	20 tons/day

Facility Operating Hours

The bioenergy facility would be designed to operate 24 hours per day, 365 days per year. The operations of the bioenergy facility would be engineered to provide baseload electricity to the grid. Truck deliveries would be primarily scheduled for the dayshift on weekdays.

Equipment

Operation of the bioenergy facility would require biomass and biochar material handling equipment, as well as equipment for the gasification process and production of electricity. Hoppers used for biomass storage would also be installed. The Aries downdraft biomass gasifier technology would be employed for this facility and three Large Format (LF) gasifiers would be installed. A thermal oxidizer and an ORC power generation unit would also be developed.

Lighting

The bioenergy facility would operate 24 hours per day. Prior to project approval, a lighting plan would be developed and submitted to Kern County to minimize impacts related to night lighting without compromising the safe operations of the facility.

The tallest light fixtures in the facility would be placed on each of the three gasifier structures, at an elevation of approximately 50 feet from grade. Outdoor lighting would consist of floodlights to illuminate large operating areas relatively free of shadow-casting obstructions, which may be supported by process equipment structures or light poles. Light-emitting diode (LED) lighting would be provided for outdoor lighting design. Battery-powered emergency lighting would be provided within the process units, at landings and stairwells, and for safe egress in case of a unit power failure. Outdoor lighting controls would include photocells and local hand switches.

Operational Water Use

Potable water would be supplied from the existing Holloway shop building adjacent to Site B. The remaining water would be provided by Holloway from water supplied by BVWSD through a transfer with Berrenda Mesa Water District (BMWD). This water would be delivered to an on-site raw water tank. The raw water tank would maintain the minimum water inventory required for emergency firewater requirements in addition to water required for daily use. Water usage could be further reduced if it is possible to intermittently transfer water from the on-site wastewater sump and/or mobile wastewater tanks to the raw water tank, after filtration.

The bioenergy facility would utilize air-blown downdraft gasifier technology, which would not require steam injection into the gasifiers; utilize an ORC to generate power, which would not require the water supply and treatment systems required for more conventional steam cycle power plants; and employ dry cooling for the power cycle and process cooling systems, which would eliminate the need for water makeup to a conventional evaporative cooling water system. These design features would significantly reduce the water demand for the bioenergy facility. In addition, the bioenergy facility design would allow for recovery and reuse of suitable quality (clean) wastewater, after testing, filtration, and minimal treatment to the raw water tank, to further reduce the water demand for the proposed bioenergy facility. Worst-case water demand for the facility, not accounting for any wastewater reuse, is provided in **Table 3-12, Bioenergy Facility Water Demand**.

Table 3-12 Bioenergy Facility Water Demand

Usage	GPD
Safety Shower Testing (Average) ¹	25
Firewater Pump Testing (Average) ²	250
Hose Stations ³	375
Biochar Conditioning ⁴	1,835
Other ⁵	130
Total	2,615
Total per Month (AFY)	0.244
Total (AFY)	2.93

¹ Four safety showers (40 GPM) tested once per week, for 1 minute each.

² 2,000-GPM firewater pump tested once per year for 45 minutes.

³ 25-GPM hose usage for 15 minutes per day.

⁴ 2,550 pounds per hour of dry biochar per day moisturized to 20% moisture.

⁵ Includes potable water usage (25 GPD/person x 5 persons), 2 GPD water tank evaporative losses and demineralizer water makeup (3 GPD).

Source: Bowman 2020a

Solid and Nonhazardous Waste

During operation, the bioenergy facility would produce approximately 20 TPD of biochar, 2 TPD of feedstock rejects, and 1.5 TPD of flue gas desulfurization (FGD) filter cake. Biochar would be tested and characterized in accordance with U.S. Environmental Protection Agency (USEPA) requirements. The biochar would be utilized as a soil amendment within a 300-mile radius of the facility. Filter cake would also undergo testing and characterization, but it is anticipated that it could be disposed of at the Lost Hills Environmental Industrial Landfill safely as non-hazardous waste. Feedstock reject material would primarily consist of rocks, dirt, and miscellaneous tramp materials (metallic scrap) included in the incoming feedstock materials and would be disposed of at the landfill safely as non-hazardous waste.

Hazardous Materials

The project would require the transport, storage, and use of fuels and other fluids for fueling/servicing of construction and operation equipment. As an existing landfill, this practice is already in place for current operations. The bioenergy facility would require approximately 10,000 gallons of (19%) aqueous ammonia, to be stored on-site. The ammonia would be delivered to the site via trucks and unloaded into a storage tank. Additional materials needed for operation of the bioenergy facility include the ORC working fluid, heating oil, and Sorbocal SP (a high surface area hydrated lime). Transportation, storage, and disposal/recycling of such products is extensively regulated at the Federal, State, and local levels. Current and future construction activities associated with the project would be required to comply with these regulations.

Aqueous ammonia is listed as a hazardous substance under the Clean Water Act (CWA) (40 CFR 116.4 and 40 CFR 117.3) and is classified as hazardous waste under the Resource Conservation and Recovery Act (RCRA) of 1976 (40 CFR 261.22 Corrosive #D002) (Tanner

Industries 2020). Primary concerns regarding accidental releases of aqueous ammonia are related to groundwater contamination, inhalation of vapors, ingestion, or contact with skin or eyes. Accidental releases of aqueous ammonia could occur from leaking seals, piping failures due to the loss of mechanical integrity and corrosion, physical damage of the system components from equipment collisions, and hose failures that occur during ammonia deliveries. Due to the rural nature of the surrounding area, potential hazards to the public are minimal. However, employees of the bioenergy facility, nearby landfill, or gypsum mine may be exposed to aqueous ammonia in the event of a release. The most likely exposure to aqueous ammonia would be from vapor inhalation or skin and eye contact. Inhalation can result in irritation of the respiratory tract, bronchospasm, edema, or respiratory arrest (Tanner Industries 2020). Physical contact with aqueous ammonia can result in irritation, corrosive burns, blisters, caustic burns, or blindness (Tanner Industries 2020).

Hazardous Waste

Solid waste, if generated during operation, would be subject to applicable disposal methods. Construction waste and other sources of solid waste would be separated for recycling where possible/available. Non-recyclable waste would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill. The closest Class III municipal landfill is the Shafter-Wasco Sanitary Landfill. Operation of the project would result in the creation of biogas, which is primarily a mixture of methane and carbon dioxide. Biogas is a flammable gas and requires fire protection measures.

Generational Tie-Line

The project would require a Generating Facility (GF) interconnection to connect the proposed bioenergy facility to the Pacific Gas and Electric Company (PG&E) distribution system at PG&E's Twisselman 2105 distribution circuit on the south side of G P Road, immediately south of Site B. The interconnection would be performed in accordance with the California Public Utilities Commission (CPUC) Generating Facility Interconnections, Electric Rule 21.

3.6.4 Employees

Currently, the Holloway Management Group, LLC employs approximately 70 full-time employees combined for the gypsum mining facility and the landfill. The project would provide new employment consistent with the adopted KCGP goals, plans, and policies. It is anticipated that approximately 90 temporary workers would be needed to complete the construction of the project and approximately 20 new full-time employees would be needed to operate the new composting and bioenergy facilities. It is expected that the construction workforce would commute to the site from local communities and the number of workers expected to relocate to the surrounding area is not expected to be substantial.

3.6.5 Vehicle Limits

As shown in **Table 3-13, Project Trip Generation**, the composting and bioenergy facilities would utilize approximately 125 new trucks. Information provided by Lost Hills Environmental, LLC regarding truck and facility operations was used to estimate the Average Daily Trips (ADT) and AM and PM peak hour trip volumes. These peak hour volumes were based on an even distribution of the 125 new trucks operating 24 hours per day. Operation of the composting and bioenergy facilities would generate a total of five truck trips during both the AM and PM peak hours, as summarized in Table 3-13.

Table 3-13 Project Trip Generation

Trip Type	# of Vehicles	ADT	AM Peak Hour ¹		PM Peak Hour ¹	
			In	Out	In	Out
Trucks	125	250	5	5	5	5

¹ Based on five trucks entering and exiting the facility per hour during hours of operation.
Source: Ruettggers & Schuler Civil Engineers 2020

3.7 Entitlements Required

Kern County, as the CEQA Lead Agency for the project, has primary discretionary approval authority over the project. The project would also be required to obtain, at a minimum, the following discretionary permits/approvals included in **Table 3-14, Proposed Discretionary Actions/Required Approvals**.

Table 3-14 Proposed Discretionary Actions/Required Approvals

Agency	Required Approval
Local	
Kern County	<ul style="list-style-type: none"> • Consideration and certification of Final EIR • Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations • Adoption of Mitigation Measure Monitoring Program • Approval by the Kern County Planning Commission for proposed conditional use permits for the project site • Approval of Grading Permits • Approval of Building Permits
Kern County Environmental Health Services Department, acting as the Local Enforcement Agency for CalRecycle	<ul style="list-style-type: none"> • Approval of Solid Waste Facilities Permits • Approval of Odor Impact Minimization Plan • Approval of Report of Compost Site Information (RCSI)
Kern County Environmental Health Services Department, Certified Unified Program Agency (CUPA)	<ul style="list-style-type: none"> • Approval of Hazardous Materials Business Plan • Approval of Spill Prevention Control and Countermeasure Plan
Kern County Fire Department	<ul style="list-style-type: none"> • Approval of Fire Safety Plan
Kern County Public Works, Building and Development, Floodplain & Survey	<ul style="list-style-type: none"> • Approval of Plan for the Disposal of Drainage Waters • Approval of Grading and Building Plans

Table 3-14 Proposed Discretionary Actions/Required Approvals

Agency	Required Approval
Kern County Public Works, Traffic	<ul style="list-style-type: none"> Approval of Access Road Design and Encroachment Permit
Regional	
Central Valley Regional Water Quality Control Board (Central Valley RWQCB)	<ul style="list-style-type: none"> Waste Discharge Requirements
San Joaquin Valley Air Pollution Control District (SJVAPCD)	<ul style="list-style-type: none"> Authority to Construct Permit to Operate Approval of Fugitive Dust Control Plan
State	
California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA)	<ul style="list-style-type: none"> Safety Management Procedures
California Department of Resources Recycling and Recovery (CalRecycle)	<ul style="list-style-type: none"> Odor Impact Minimization Plan Solid Waste Facility Permit
State Water Resources Control Board (SWRCB)	<ul style="list-style-type: none"> Storm Water Pollution Prevention Plan for coverage under the General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit) Spill Prevention Control and Countermeasures Plan

3.8 Cumulative Effects Overview

CEQA requires that an EIR evaluate a project's cumulative impacts. Cumulative impacts are the project's impacts combined with the impacts of other related past, present, and reasonably foreseeable future projects. As set forth in the State CEQA *Guidelines*, the discussion of cumulative impacts must reflect the severity of the potential 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 State CEQA *Guidelines*:

Cumulative impacts refer to two or more individual effects which, when considered together, are considerable and which compound or increase other environmental impacts.

- (a) The individual effects may be changes resulting from a single project or a number of separate projects.
- (b) The cumulative impact from several projects is the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking

place over a period of time” (California Code of Regulations [CCR], Title 14, Division 6, Chapter 3, Section 15355).

In addition, as stated in State 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, *Environmental Analysis*, of this Draft EIR. As previously stated, and as set forth in the State CEQA *Guidelines*, related projects consist of “closely related past, present, and reasonable foreseeable probable future projects that would likely result in similar impacts and are located in the same geographic area” (14 CCR Division 6, Chapter 3, Section 15355).

For each environmental resource evaluated, cumulative effects are assessed in a different way. For example, the SJVAPCD requires use of a 1-mile radius to identify the cumulative effects of hazardous air pollutant emissions as well as most odor sources. The SJVAPCD also recommends a 1-mile limit for hazardous air pollutants because such emissions primarily affect individuals that reside or work within the immediate vicinity (1 mile) of the emissions source.

However, Kern County’s *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* requires a 6-mile radius to assess cumulative impacts because development in rural areas tend to affect a larger geographical area than development located in urban areas. Kern County records were reviewed to determine the number of permitted or planned projects within the 6-mile radius of the project site.

The cumulative analysis in Chapter 4, *Environmental Analysis*, of this EIR is based on a qualitative and quantitative cumulative analysis, which includes all projects located within a 6-mile radius of the proposed project, as well as growth projections to the Year 2030. Different resource-specific analyses use this 6-mile radius unless specific methodology deems other supplemental approaches are appropriate.

The *Kern County General Plan* is the primary guide for land development in the vicinity of the proposed project. The Land Use, Open Space, and Conservation Element assumes continued growth in commercial and industrial development similar to the current growth rate, and anticipates the future growth rate would parallel the future residential growth rate in the unincorporated areas of the County. The proposed project is considered part of this projected growth.

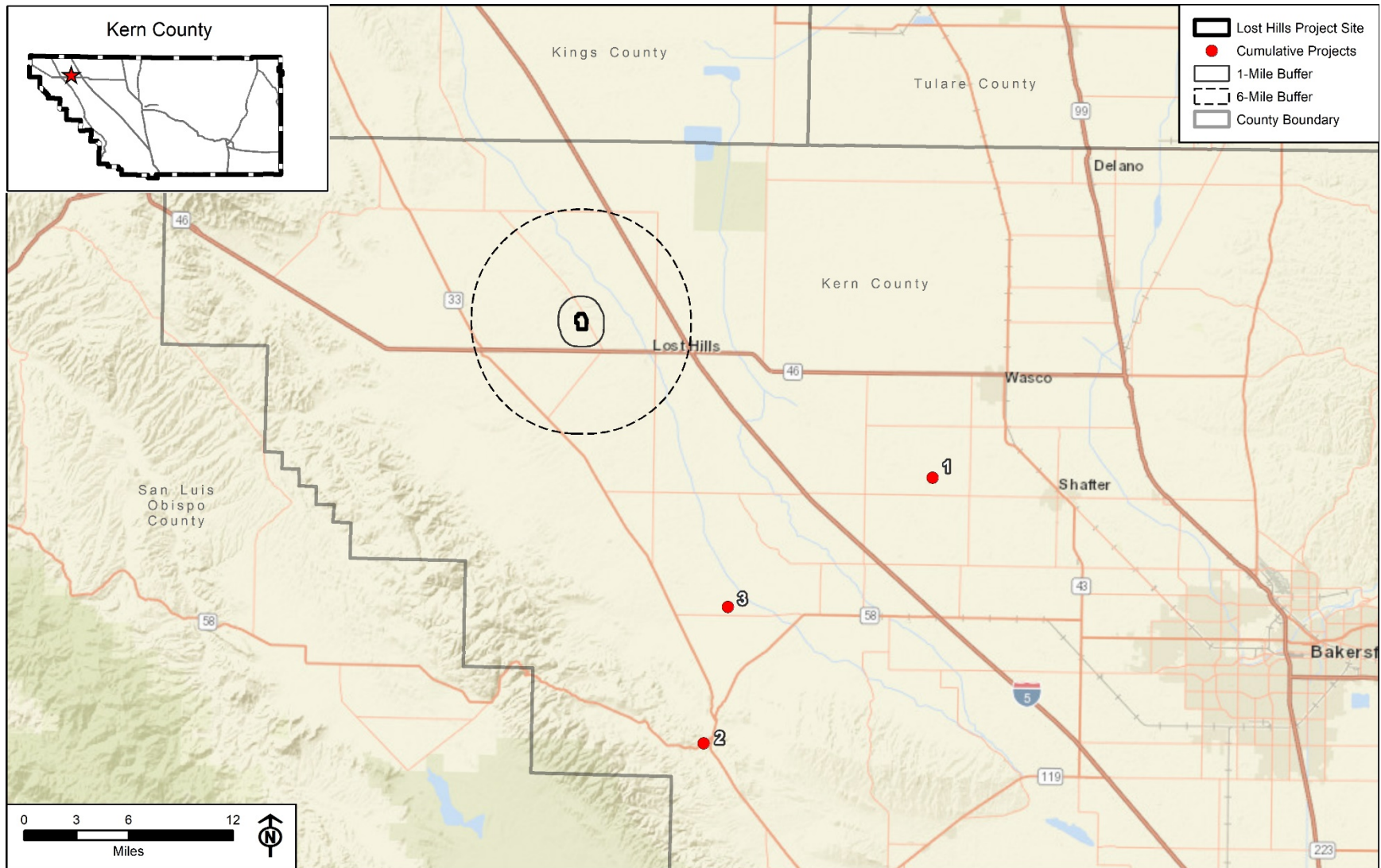
A list and description of past, present, and reasonably foreseeable projects near the project can be found in **Table 3-15, Cumulative Projects List**. **Figure 3-16, Cumulative Projects Map**, shows the approximate location of the proposed projects in Kern County considered in the cumulative analysis.

Table 3-15 Cumulative Projects List (as of May 20, 2020)

Map ID	Name	Project Location	Request	Case Type Code*	Acreage	APN	Project Status
Projects Within 6-Mile Radius							
There are no planned projects located within 6 miles of the proposed project.							
Similar Projects in Kern County							
1	KC Waste Management	Shafter Wasco Landfill, Scofield Road (35.51473, - 119.405413)	8.1 to 3.4.1 Excl from Ag Pres #8	GPA	208	088-100-38	EIR underway
2	Liquid Waste Management, Inc	SR-58 and SR-33, McKittrick (35.290873, - 119.634241)	Expand existing Class II Nonhazardous oilfield waste landfill	CUP	40	157-240-11	Application review
3	Clean Harbors Buttonwillow, LLC	2500 West Lokern Road, Buttonwillow, CA (35.398344, - 119.609761)	8.3 to 3.4; Excl from Ag Pres #2; ZCC A to M-3; CUP #4, Map 97 modification.	ZCC, GPA, CUP	640	099-290-17 and 099-261-32	EIR underway

* ZCC = Zoning Code Change

As provided in **Table 3-15, Cumulative Projects List**, three cumulative projects similar to the proposed project are proposed within the greater Kern County area. The first cumulative project involves the expansion of an existing solid waste facility located approximately 8 miles west of the City of Shafter. The second cumulative project is located south of the unincorporated Town of McKittrick and involves expansion of an existing Class II nonhazardous oilfield waste landfill facility. The third cumulative project is located approximately 7.6 miles west of the unincorporated community of Buttonwillow and involves the expansion of an existing hazardous waste facility.



**Figure 3-16
Cumulative Projects Map**

4.1.1 Introduction

This section of the Environmental Impact Report (EIR) discusses impacts associated with the potential for the proposed project to degrade the existing visual character or quality of the project site and its surroundings through changes to the existing landscape. Potential effects are evaluated relative to important visual resources (e.g., scenic highways, scenic features) and the existing visual landscape and its users. Degradation of the visual character of a site is usually addressed through a qualitative evaluation of the changes to the aesthetic characteristics of the existing environment and the project-related modifications that would alter the visual setting. Visual simulations were created by Landscape Architect, Robert Carr, and illustrate views of the project site after buildout of the project. The terms and concepts provided in the discussion below are used to describe and assess the aesthetic setting and impacts from the project.

Visual Concepts and Terminology

When viewing the same landscape, people may have different responses to that landscape and any proposed visual changes, based upon their values, familiarity, concern, or expectations for that landscape and its scenic quality. Because each person's attachment to and value for a particular landscape is unique, visual changes to that landscape inherently affect viewers differently. Nonetheless, generalizations can be made about viewer sensitivity to scenic quality and visual changes.

Recreational users (e.g., hikers, equestrians, tourists, people driving) are expected to be highly concerned with scenery and landscape character. People who commute daily through the same landscape generally have a moderate concern for scenery, while people who work at industrial sites 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 and 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 farther 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.

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

- **Potentially Sensitive Viewpoints:** These are viewpoints from which project impacts are assessed. They typically include scenic vistas, scenic highways, residential views, and views from public parks, recreational areas, and culturally important locations from which the project could potentially be visible.
- **Key Viewing Area (KVA):** One or a series of points on a travel route or at a sensitive use area where the public's view of a project would be the most revealing.
- **Scenic Vista:** An area that is designated, signed, and accessible to the public for the express purposes of viewing and sightseeing. This includes any such areas designated by a Federal, State, or local agency.
- **Scenic Highway:** Any stretch of public roadway that is designated as a scenic corridor by a Federal, State, or local agency.
- **Sensitive Receptors or Sensitive Viewpoints:** Viewer responses to visual settings are inferred from a variety of factors, including distance, viewing angle, type of viewers, number of viewers, duration of view, and viewer activities. The viewer type and associated viewer sensitivity are distinguished among project viewers in recreational, residential, commercial, military, and industrial areas. Viewer activities can range from a circumstance that encourages a viewer to observe the surroundings more closely (such as recreational activities), to discouraging close observation (such as commuting in heavy traffic). Residential viewers typically have extended viewing periods and are generally considered to have high visual sensitivity. For this reason, residential views are typically considered sensitive. Viewers from public parks, recreational trails, and/or culturally important sites also have high visual sensitivities; therefore, such locations are considered sensitive viewpoints. Viewers in commercial, military, and industrial areas are not typically focused on the views, and the areas do not promote enjoyment of views; therefore, viewers in these locations are assumed to have low sensitivity.
- **Viewing Distance Zones:** The landscape is subdivided into three distance zones based on relative visibility from travel routes or observation points: foreground, middle ground, and background. The foreground zone includes areas less than 0.25 mile away, the middle ground zone includes areas 0.25 mile to 3 miles away, and the background zone includes areas beyond 3 miles.
- **Viewshed:** The viewshed for a project is defined as the surrounding geographic area from which the project is likely to be seen, based on topography, atmospheric

conditions, land use patterns, and roadway orientations. “Project viewshed” is used to describe the area surrounding a project site where a person standing on the ground or driving a vehicle can view the project site.

4.1.2 Environmental Setting

Regional Character

Kern County is at the southern end of the San Joaquin Valley with a diverse range of geography, including mountainous areas, agricultural lands, and desert areas. The southern end of the valley is surrounded by the Sierra Nevada Mountains to the east, the Tehachapi and San Emigdio Mountains along the south, and the Temblor Range (part of the Coastal Ranges) along the west. Kern County is bounded by Kings, Tulare, and Inyo Counties to the north, San Bernardino County to the east, Los Angeles and Ventura Counties to the south, and Santa Barbara and San Luis Obispo Counties to the west.

The landscape of the vast San Joaquin Valley region is dominated by agricultural operations, oil production/extraction, and pockets of urbanized areas, all of which have altered the once-natural, undeveloped landscape. The ground plane generally slopes downward from the south at the Tehachapi and San Emigdio Mountains to the north, and flattens out into the San Joaquin Valley region. The landscape is mostly flat, lacking significant topographic relief, and tends to be visually monotonous because of the repetitive expanse of agricultural and extractive land uses. There is little variety of vegetative cover (i.e., grasses, croplands, solitary trees, and residential landscaping). While there are few panoramic views within the San Joaquin Valley, the eastern, western, and southern edges of the San Joaquin Valley, where the project is located, do provide viewsheds, including views of the Tehachapi and San Emigdio Mountains to the south.

These topographical elements are physiographically separated from the flat valley floor; their summits and ridgelines are important focal points throughout the County and are an excellent example of how adjacent scenery can enhance the visual quality of a landscape devoid of topographic relief and contribute positively to the area’s scenic quality. From certain vantage points, as one nears the eastern, western, and southern edges of the valley floor, mountainous topographic features rise abruptly from the ground plane, adding visual variety and dramatic focal points; this is considered high quality adjacent scenery.

Over the years, Kern County has experienced a great deal of urbanization, resource extraction, and renewable energy development. Urbanization has resulted in the introduction of numerous manmade modifications into the viewshed, including residential, commercial, and industrial uses, roadways and highways, and utilities to support development. In addition, mineral, oil, and natural gas extraction activities are common to the region. Also, the County is a significant producer of renewable energy, including hydroelectric, wind, solar, and geothermal power generation. Resource extraction and renewable energy production have both introduced many large-scale industrial facilities into the viewshed. Common visual elements include oil wells, storage tank batteries, access roads, and electrical and water conveyance infrastructure that tend to dominate the visual landscape in the western valley.

While urbanization and utility-scale development within the County have resulted in the development of large tracts of farmland, the pervasiveness of agricultural farming practices has helped maintain the County's agricultural and open space character. Generally, the aesthetic features of the regional visual environment are relatively uniform, with broad, flat landscapes leading to distant mountains and interspersed with urban, rural, and industrial development in varying densities and intensities.

Local Character

The project is comprised of Sites A and B, which are separated by Holloway Road. Site A is an existing landfill facility on the west side of Holloway Road at the G P Road intersection. The proposed compost facility along with existing landfill operations would be located within Site A. Site B is an equipment staging and storage area on the east side of Holloway Road, north of G P Road. The future site of the bioenergy facility would be located within Site B. Site A is approximately 2.2 miles north of State Route (SR-) 46, and Site B is approximately 1.5 miles north of SR-46.

The underlying topography of Sites A and B is generally flat; however, past and current land uses and operations have resulted in substantial disturbance to both sites. Site A has undergone wholesale alterations to the landform, including excavated pits, embankment areas, berms, and access roads. Prior to development of the existing landfill facility, the entire project site was used for surface mining of gypsum.

The offices and other operational buildings are located immediately north of Site B, along Holloway Road. Equipment storage, truck activity, and employee vehicles are visible in this area. Vegetation present within the project site consists mostly of denuded areas, ruderal vegetation, and non-native annual grassland.

The nearest population center to the project site is the unincorporated community of Lost Hills, which is located approximately 4.3 miles to the southeast. The nearest residence to the project site is 2.3 miles east of the project site at Munger Farms. Land uses in the local area primarily consist of orchard and row-crop farming, open space, rural access roads, and mining and extractive activities. Land uses surrounding the project site include surface mining activities associated with the H.M Holloway Gypsum Mine, a landfill, and undeveloped land. Extraction activities associated with the Lost Hills Oil Field are located adjacent to and east of the project site.

The project site is relatively flat with elevations generally between 370 and 500 feet above mean sea level (amsl). Topographic relief begins to noticeably increase approximately 14 miles west of the project site, where the Shale Hills give way to the Temblor Range, which has peaks over 3,000 feet amsl.

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 California Scenic Highway Mapping System identifies a portion of SR-41 as an Eligible State Scenic Highway, which is distinct from an officially designated State Scenic Highway. The project is located approximately 22 miles southeast of this segment of Eligible State Scenic Highway. The nearest Officially Designated State Scenic Highway to the project site is SR-33, which is located over 60 miles south of the project site in Ventura County, and the project site is separated from SR-33 by the Sierra Madre Mountains.

In addition to the State Scenic Highway Mapping System, the Kern County General Plan Circulation Element designates local scenic routes within Kern County and defines a scenic route as any freeway, highway, road, or other public right-of-way, which traverses an area of exceptional scenic quality and must be officially set as a Scenic Route by the Kern County Board of Supervisors or the State of California. As local scenic routes are not considered officially designated by the State, they are not analyzed below. The Kern County General Plan Circulation Element identifies several local scenic routes within Kern County; however, none of the local scenic routes (i.e., along SR-14 and U.S. Highway [US] 395, SR-58, and SR-41) are in proximity to the project site. The Kern County General Plan Program EIR does identify Interstate (I-) 5 as a scenic route and lists the sites of interest near this route, including the Edmonston Pumping Plant, Sebastian Indian Reservation, Fort Tejon, top of Grapevine Pass, Frazier Park, Big Trees, Cerro Noroeste (Mt. Abel), and Bitter Creek National Wildlife Refuge. This route is approximately 5 miles from the project site.

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

Lighting Environment

Site A is an existing landfill facility and Site B is an equipment staging and storage area. No permanent sources of artificial lighting are located at Site A or Site B. However, mobile artificial lighting sources may be periodically visible from the existing landfill facility associated with Site A and from surface mining activities north of the site. Additionally, artificial lighting is present at the offices and other operational buildings immediately north of Site B. In general, however, given the project site's rural character, artificial lighting is minimal. There is no local roadway lighting.

Daytime glare conditions are also minimal, being generally limited to sunlight reflected from equipment staged within Site B and from the offices and operational buildings immediately north of Site B.

4.1.3 Regulatory Setting

Federal

There are no applicable Federal regulations to this issue area.

State

California Environmental Quality Act

California Environmental Quality Act (CEQA) *Guidelines* Section 15382 defines a “significant effect” on the environment to mean a “substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.”

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 the Streets and Highways Code Sections 260 through 263.

As described in Section 4.1.2, *Environmental Setting*, there are no Officially Designated State Scenic Highways within Kern County, and the project site is not located directly adjacent to any Eligible State Scenic Highway. The closest section of highways eligible for a State Scenic Highway designation is SR-41. As discussed above, the project is located approximately 22 miles southeast of this Eligible State Scenic Highway.

Local

Kern County General Plan

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

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

The Kern County General Plan acknowledges the three routes identified as part of the California Scenic Highways Master Plan that are designated “Eligible State Scenic Highway” within the County. Route 1, which begins north of Mojave and continues to the Inyo County Line, consists of SR-14 and U.S. Route (US) 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 site would not be visible from any of these routes.

The Kern County General Plan Circulation Element also identifies several local scenic routes within Kern County; however, none of the local scenic routes are in proximity to the project site (i.e., along SR-14 and US 395, SR-58, and SR-41). The Kern County General Plan Program EIR does identify I-5 as a scenic route and lists the sites of interest near this route, including the Edmonston Pumping Plant, Sebastian Indian Reservation, Fort Tejon, Top of Grapevine Pass, Frazier Park, Big Trees, Mt. Cerro Noroeste (Mt. Abel), and Bitter Creek National Wildlife Refuge. This route would not be visible from the project site.

The Kern County General Plan provides general goals and policies for design features of development projects in order to reduce their impacts to scenic resources. The policies and implementation measures in the Kern County General Plan for aesthetic resources applicable to the project are provided below. The Kern County General Plan contains goals, policies, and implementation measures that are more general in nature and are not specific to development, such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1 Land Use, Open Space, and Conservation Element

1.10 General Provisions

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

Implementation Measure AA: The County shall utilize State 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 Electricity Resources and Generation

5.4.7 Transmission Lines

Goals

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.

Policies

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

Kern County Zoning Ordinance

Chapter 19.81: Dark Skies Ordinance (Outdoor Lighting)

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

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

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

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

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

Kern County Development Standards

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

4.1.4 Impacts and Mitigation Measures

This section describes the impact analysis relating to aesthetics for the proposed project. It describes the methods used to determine the impacts of the proposed project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, where applicable, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

Existing Project Site Visibility

Existing visibility of the project site is generally limited to sections of Holloway Road and G P Road in the immediate vicinity of the project site. Along a short segment of SR-46 near the intersection of Holloway Road, the existing buildings and equipment on and adjacent to Site B can be seen in the distance. Overall, the relatively flat topography of the project site and the surrounding topography reduces opportunities for elevated vantage points in the area. Site noticeability from distant viewpoints is also limited. In addition, slight undulations in the landform surrounding the project further limit visual access to the project site as seen from public roadways and potential viewpoints in the area.

Analysis Methodology

The findings of this analysis are based on field visits conducted during February and June 2020 and included review of the entire site and the surrounding area. Resource inventories were conducted both on foot and from a moving vehicle, and existing visual resources and site conditions were photographed and recorded. Assessment of project elements was based on conceptual plans and descriptions provided by the project proponent. Planning documents and approved studies relevant to the project and the surrounding area were referenced for gaining an understanding of the project, applicable regulatory requirements, and established aesthetic values.

The project site (Sites A and B) was viewed from potential public viewer group locations throughout the surrounding area. Representative viewpoints were identified for further analysis, based on dominance of the site within the view, duration of views, and expected sensitivity of the viewer group. Of those potential viewpoints, Kern County Department of Planning and Natural Resources staff selected three KVAs for photo-simulations that would best illustrate the visual changes resulting from the project (refer to **Figure 4.1-1, Key Viewing Area Locations Map**).

Photographs were taken with a 50-millimeter (mm) lens to replicate the unaided view of the human eye. Accuracy of the visual simulations was ensured by placing reference story poles at surveyed points representing critical project features, in addition to analyzing the known dimensions and elevations of existing elements and landform, combined with three-

dimensional topographic mapping analysis, and empirical field observation. Photo-simulations were prepared to quantify potential project visibility and to assess related visual effects. Images of the existing views, as well as photo-simulations of the proposed project from the KVAs are shown in **Figure 4.1-2, KVA 1: From Near the Intersection of Holloway Road and G P Road Looking North**, **Figure 4.1-3, KVA 2: From Holloway Road South of G P Road Looking West**, and **Figure 4.1-4, KVA 3: From SR-46 West of G P Road Looking North**.

Visual Quality Ratings

This analysis includes the “Scenic Quality Rating Criteria” method developed by the U.S. Bureau of Land Management (BLM) to assess the various landscape elements that comprise visual quality to be quantified and rated with a minimum of ambiguity or subjectivity. According to this method, visual quality is rated according to the presence and characteristics of seven key components of the landscape. These components include landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications:

1. The **landform** component of the visual quality rating criteria considers 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 that adds movement or serenity to a scene. The degree to which water dominates the scene is the primary consideration in selecting the rating score for the water component.
4. The **color** component 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. The distance of influence for adjacent scenery normally ranges from 0 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.



**Figure 4.1-1
Key Viewing Area Locations Map**



Figure 4.1-2
KVA 1: From Near the Intersection of Holloway Road and G P Road Looking North



Figure 4.1-3
KVA 2: From Holloway Road South of G P Road Looking West



Figure 4.1-4
KVA 3: From SR-46 West of G P Road Looking North

6. The **scarcity** component of the visual quality rating criteria provides an opportunity to give added importance to one or all of the scenic features that appear to be relatively unique or rare within a region. There may also be cases where a separate evaluation of each of the key factors does not give a true picture of the overall scenic quality of an area. Often, it is a number of not so spectacular elements in the proper combination that produces the most pleasing and memorable scenery—the scarcity factor can be used to recognize this type of area and give it the added emphasis it should have.
7. The **cultural modifications** component of the visual quality rating criteria takes into account any manmade modifications to the landform, water, vegetation, and/or the addition of manmade 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 is 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 4.1-1**, *Visual Quality Rating System*, for the example point values associated with the various criteria.

An important aspect 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 manmade features within a landscape do not necessarily detract from the scenic value. In fact, certain manmade 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 were 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.

Table 4.1-1 Visual Quality Rating System

Key Factors	Rating Criteria and Score		
Landform	5 Points: 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.	3 Points: 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.	1 Point: Low rolling hills, foothills, or flat valley bottoms; or few or no interesting landscape features.
Vegetation	5 Points: A variety of vegetative types as expressed in interesting forms, textures, and patterns.	3 Points: Some variety of vegetation, but only one or two major types.	1 Point: Little or no variety or contrast in vegetation.
Water	5 Points: Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape.	3 Points: Flowing, or still, but not dominant in the landscape.	1 Point: Absent, or present but not noticeable.
Color	5 Points: Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields.	3 Points: Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element.	1 Point: Subtle color variations, contrast, or interest; generally mute tones.
Influence of Adjacent Scenery	5 Points: Adjacent scenery greatly enhances visual quality.	3 Points: Adjacent scenery moderately enhances overall visual quality.	1 Point: Adjacent scenery has little or no influence on overall visual quality.
Scarcity	5 Points: One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc.	3 Points: Distinctive, though somewhat similar to others within the region.	1 Point: Interesting within its setting but fairly common within the region.
Cultural Modifications	2 Points: Modifications add favorably to visual variety while promoting visual harmony.	0 Points: Modifications add little or no visual variety to the area and introduce no discordant elements.	-4 Point: Modifications add variety but are very discordant and promote strong disharmony.
Total Score for All Categories: Out of 32			

Source: BLM 1986.

The following designations are used to rank the significance of project impacts according to the pre- and post-project differences in numerical visual quality scores:

- **Potentially Significant Impact:** Any impact that could potentially lower the visual quality of an identified sensitive viewpoint by 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.

Thresholds of Significance

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 on aesthetic resources 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 non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; or
- d. Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.

Project Impacts and Mitigation Measures

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

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

A substantial adverse impact to a scenic vista would occur if the project would significantly degrade the scenic landscape as viewed from public roads or from other public areas. The degree of potential impact on scenic vistas varies based on several factors, such as viewing distance, duration, viewer sensitivity, and the visual context of the surrounding area. Scenic vistas are often panoramic views that have high-quality compositional and picturesque value. Scenic vistas in the region are mostly found in areas where views of hills in the distance provide a visual backdrop for open space, natural landforms, and vegetation, and/or agriculture patterns in the mid- and foreground. These types of scenic vistas are available along several segments of Holloway Road, G P Road, and SR-46. Generally, these higher-quality vistas occur where industrial mineral extraction uses are not present.

In the immediate project vicinity, distant hills can be seen, although they tend to not dominate the view, nor visually define the viewshed. As seen from most viewpoints in the vicinity of the project, at least some of the mid- or foreground is occupied by views of mineral extraction or industrial agriculture operations. Currently, the project site is highly disturbed and does not contribute to any quality scenic vista.

Since the project site is already highly disturbed and provides limited aesthetic value, implementation of the project would not further degrade any potential scenic vista. Development of the bioenergy facility on Site B would introduce several tall elements, such as the stack and the gasifier structures, which would be approximately 50 feet tall and visible from Holloway and G P Roads, as well as from a short segment of SR-46 in the distance. These taller elements, although visible, would not result in an appreciable reduction of availability of views to the distant hills, natural open space, or agricultural crops. As a result, implementation of the project would have no adverse effect on a scenic vista, and impacts would be less than significant.

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.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

According to the Caltrans California Scenic Highway Mapping System, there are no Officially Designated State Scenic Highway in the vicinity of the project site (Caltrans 2017). The closest section of highway eligible for a State scenic highway designation is SR-41. The project is located approximately 22 miles southeast of this Eligible State Scenic Highway. Given this distance and intervening topography, the project would not be visible from any Officially Designated or Eligible State Scenic Highway. Construction of the proposed project would change the views from public roads; however, these alterations would not damage scenic resources within a state scenic highway. Implementation of the project would not change the viewshed from any Officially Designated or Eligible State Scenic Highway; therefore, there would be no impact.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact would occur.

Impact 4.1-3: The project would substantially degrade the existing visual character or quality of public views of the site and its surroundings.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The existing visual character of the project site and its surroundings is a product of both built and natural elements. The region is defined in a large part by its utilitarian appearance as a “working” landscape, as well as by its sparsely developed, rural agricultural character. Although the underlying landscape character of the region is rural, in many areas the visual presence of oil extraction infrastructure and surface mining facilities dominate the scenery. Visual quality and character are improved where open space and/or agricultural crops are an important part of the view.

As the project is located within a nonurbanized area, the analysis below will focus on whether development of the project would substantially change the existing visual character or quality of public views of the site and its surroundings.

Construction

Construction activities associated with the project would create temporary changes in views of Sites A and B. Construction crews would be working on the sites with heavy equipment and vehicles. However, viewers traveling along roads in the vicinity of the project site are

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

Operation

In order to determine whether the project would substantially degrade the existing visual quality of the project site, this analysis compares the existing visual setting with visual simulations of the project at buildout. As described above, three KVAs were selected for visual simulations and best illustrate the visual changes resulting from the project. The pre- and post-project visual changes from each KVA are described below.

Key Viewing Area 1

Figure 4.1-2, KVA 1: *From Near the Intersection of Holloway Road and G P Road Looking North*, shows views of the project site that would be experienced by motorists looking north at the intersection Holloway Road and G P Road. The existing views from KVA 1 show a relatively flat landscape covered with low-lying scrub vegetation in the foreground. Site B is visible in the middle ground and includes equipment staged throughout the site. The office and other operational buildings associated with the H.M Holloway Gypsum Mine are also visible in the middle ground, just north of Site B. Distant views of oil extraction infrastructure are visible in the background. The landscape from this KVA also features numerous utility poles traversing the area. The proposed project view from KVA 1 would feature the bioenergy facility. This facility would partially obscure distant views of the oil extraction infrastructure. However, the facility would have no noticeable effect on the existing landform or extent of vegetation and would not substantially contrast with the visual character of the region.

Key Viewing Area 2

Figure 4.1-3, KVA 2: *From Holloway Road South of G P Road Looking West*, shows views that would be experienced by motorists looking west from Holloway Road, South of G P Road. The existing views from KVA 2 show the existing landfill facility with low-lying scrub and grasses in the foreground and middle ground. Utility poles and a hillock can also be seen along and directly adjacent to Holloway Road, respectively. Longer-range views show an expansive undeveloped valley floor with foothills in the background. The proposed project view from KVA 2 would include removal of the hillock and some vegetation within Site A. The proposed landfill facility would not substantially contrast with the visual character of the region or prohibit long-range views in the region.

Key Viewing Area 3

Figure 4.1-4, KVA 3: *From SR-46 West of G P Road Looking North*, shows views that would be experienced by motorists from SR-46 west of G P Road looking north. The existing views from KVA 3 show an expansive undeveloped valley floor with pumpjacks and other features

associated with oil extraction infrastructure in the background. The proposed project views would not include visible modifications due to the distance between the project site and the KVA.

Visual Quality Rating

Views of the existing project site and proposed modifications have been rated numerically and are shown in **Table 4.1-2, Visual Quality Rating Analysis**. The visual quality ratings shown in Table 4.1-2 indicate that the existing visual quality rating is 8 and that project implementation would not alter the visual quality rating of the area. Review of the ratings indicates that the factors most affecting the existing visual quality are related to open space and agriculture, combined with often unremarkable topography, highly visible industrial mineral extraction land use, and lack of vegetation and water elements. The visual quality ratings for the post-development condition show that the project would not be inconsistent with the existing visual context and would not noticeably degrade landform, developed character, vegetative patterns, access to surrounding quality views, or other visual quality factors.

Rating Feature	Pre-Development	Post-Development
Landform	1 Point: The project site includes little topographic relief and does not contribute to the visual quality or memorability of the view as seen from public roadways.	1 Point: The bioenergy facility at Site B would have no noticeable effect on the existing landform. The composting facility at Site A would further flatten the existing topography and would not increase visual quality or memorability of the view.
Vegetation	1 Point: These highly disturbed sites are generally absent of vegetation.	1 Point: The project would not add vegetation to the sites.
Water	1 Point: No surface water is visible at either project site.	1 Point: The project would not create visibility of standing water at the sites.
Color	1 Point: The visual context includes little color variation, contrast, or interest, and is generally seen as muted tones.	1 Point: Project elements would be painted or otherwise colored in earth tones in order to visually blend with the surroundings.
Influence of Adjacent Scenery	2 Points: Adjacent scenery is a mix of industrial, agriculture, and open space but has little positive influence on visual quality of the project site.	2 Points: The project would not prohibit views of adjacent scenery and would have little or no influence on overall visual quality.
Scarcity	1 Point: Existing site use and related elements are common within the region.	1 Point: Proposed uses and project elements would be visually consistent with the industrial/agricultural/mining character of the region.
Cultural Modifications	1 Point: Existing modifications of the sites include a landfill and surface mining operations.	1 Point: Specific components of the project would be somewhat unique within the immediate setting but not unexpected within the regional context.
Total Score	8 out of 32	8 out of 32

Source: BLM 1986.

Impact Summary

Open space and agrarian visual characteristics are found in the area surrounding the project site. However, as seen from Holloway Road, G P Road, and SR-46, the current mining and landfill uses of the project site and its surroundings provide little, if any, benefit to visual quality. Mass grading, landform alteration, vegetation removal, and extensive mining and landfill operations firmly establish the visual character of the project site.

The project would not introduce new or unexpected uses into the region or at the project site. Although construction of bioenergy and composting facilities would alter the physical appearance of the sites, the underlying public perception of the sites and surroundings as a highly disturbed industrial use would remain unchanged. Highly visible oil extraction and surface mining operations are not uncommon in western Kern County and throughout the project region. Many oil wells and related facilities can be seen surrounding the project site to the north and east. Implementation of the project would increase the intensity of industrial use at the project site; however, this change would not be inconsistent with numerous other intensive mineral extraction and agriculture uses seen throughout the region. Furthermore, as provided in **Table 4.1-2, *Visual Quality Rating Analysis***, implementation of the project would not lower the visual quality from any KVA. As a result, the project would not adversely change the existing defining visual character of the highly disturbed site or the surrounding visual landscape and impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

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.

The project would result in a significant impact if it subjected viewers from public roads or residences to a substantial amount of new point-source lighting visibility at night, or if the collective illumination of the project resulted in a noticeable spill-over effect into the nighttime sky, increasing the ambient light over the region.

eASP Composting Facility and Landfill Facility

Lighting

Lighting for the proposed composting facility would be provided by portable flood lights attached to a generator. Lights would be oriented downward in such a manner to minimize the impact to dark skies. Lights would face away from the publicly traveled Holloway Road, and would only be used in areas that were actively being worked, not the entire composting facility.

Implementation of the project would increase the amount of light at Site A due to operational, safety, and security lighting, Federal Aviation Administration (FAA)-required lights, and vehicle headlights. Currently, lighting of the project area is mostly associated with the structures and operations immediately north of Site B, and to a lesser extent, with operations west of Holloway Road. Existing lighting can also be seen throughout the surrounding area, often associated with oil extraction facilities' security and operational needs.

Potential operational impacts associated with new sources of lighting at the project site would be minimized through compliance with applicable development standards pertaining to lighting, including the Dark Skies Ordinance, as required with implementation of Mitigation Measure MM 4.1-1 (COM, BEF, LDF), which states that facilities would be designed to provide the minimum illumination needed to achieve safety and security objectives. Therefore, implementation of Mitigation Measure MM 4.1-1 (COM, BEF, LDF) and compliance with Kern County Zoning Ordinance Sections 19.80.030 and 19.81.040 related to lighting would effectively minimize potential point-source lighting visibility and light trespass into the surrounding area from the composting facility and landfill facility, respectively. Therefore, impacts would be less than significant with mitigation.

Bioenergy Facility

Lighting

The bioenergy facility would operate 24 hours per day. Prior to project approval, a lighting plan would be developed and submitted to Kern County to minimize night sky impacts without compromising the safe operations of the facility.

The highest light fixtures in the facility would be placed on each of the three gasifier structures, at an elevation of approximately 50 feet above grade. Outdoor lighting would consist of floodlights to illuminate large operating areas relatively free of shadow-casting obstructions, which may be supported from process equipment structures or light poles. Light-emitting diode (LED) lighting would be provided for outdoor lighting design. Battery-powered emergency lighting would be provided within the process units, at landings and stairwells, and for safe egress in case of a unit power failure. Outdoor lighting controls would include photocells and local hand switches.

Potential operational impacts associated with new sources of lighting at the project site would be minimized through compliance with applicable development standards pertaining to lighting, including the Dark Skies Ordinance, as required with implementation of Mitigation Measure MM 4.1-1 (COM, BEF, LDF), which states that the facility would be designed to provide the minimum illumination needed to achieve safety and security objectives. Therefore, implementation of Mitigation Measure MM 4.1-1 (COM, BEF, LDF) and compliance with Kern County Zoning Ordinance Sections 19.80.030 and 19.81.040 related to lighting would effectively minimize potential point-source lighting visibility and light trespass into the surrounding area. Therefore, impacts would be less than significant with mitigation.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

Glare

The proposed project facilities would not include any components that would have the potential to produce substantial glare. Vehicles and equipment operating at the facilities could create some glare to motorists traveling along Holloway Road; however, any glare experienced by motorists would be relatively short in duration and would not cause substantial visual impairment. Therefore, impacts related to glare would be less than significant.

Mitigation Measures

MM 4.1-1 (COM, BEF, LDF) Prior to commencement of project operations of the composting, bioenergy, and landfill facilities, the project proponent shall demonstrate to Kern County Planning and Natural Resources Staff that the project complies with the applicable provisions of the Dark Skies Ordinance, and shall be designed to provide the minimum illumination needed to achieve safety and security objectives. All lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Lenses and bulbs shall not be exposed or extend below the shields.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.1-1 (COM, BEF, LDF), impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative Setting

Section 3.8, *Cumulative Effects Overview*, of this EIR discusses cumulative projects near and similar to the project. **Table 3-15, *Cumulative Projects List***, in Chapter 3 lists specific projects considered in the cumulative impact analysis. The cumulative setting for the aesthetic, light, and glare impacts includes build-out of the Kern County General Plan. The project site and surrounding areas are currently designated and zoned for agricultural, solid waste, and mineral and petroleum land uses. Implementation of the project as proposed would not require an amendment to existing land use or zoning designations. As discussed in Section 3.8, *Cumulative Effects Overview*, of this EIR, there are no cumulative projects within a 6-mile radius of the proposed project site and only three similar cumulative projects identified within the County.

Past and future urban, industrial, and manufacturing development has changed, and will continue to alter, the visual character along roadway corridors in Kern County. Generally speaking, these changes involve the replacement of undeveloped, vacant lands with new urban, industrial, and manufacturing land uses, thus altering and limiting the views of undeveloped land available to motorists along these roadways and residents living in the area. This trend

will continue as future development projects are constructed in the region and in the County as a whole, consistent with growth planned in the Kern County General Plan.

Impact 4.1-5: The project would contribute to cumulative aesthetic impacts.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The discussion of cumulative impacts relates to the potential for the project to contribute to an aggregate change in visual quality from surrounding public viewing areas, taking into consideration existing, as well as proposed development. This change in visual character, if experienced along with other recent and proposed projects, could potentially contribute to an emerging perception that the region is undergoing a visual change toward increasing development.

Little visual change has occurred in the project vicinity over the last several years and no substantial new development that would be easily seen in the local area is currently proposed.

Based on the impact analysis provided in this section, the project would result in little to no adverse impacts to scenic vistas or the existing visual quality of the site and its surroundings. Compliance with Kern County ordinances and implementation of Mitigation Measure MM 4.1-1 (COM, BEF, LDF) would reduce potential lighting impacts to a less-than-significant level. As a result, the project would not contribute to a potential cumulative visual degradation of the site and surrounding area and cumulative impacts would be less than significant with mitigation.

Mitigation Measures

Implement Mitigation Measure MM 4.1-1 (COM, BEF, LDF).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.1-1 (COM, BEF, LDF), cumulative impacts would be less than significant.

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4.2.1 Introduction

This section of the Environmental Impact Report (EIR) evaluates long- and short- term air quality impacts associated with implementation of the project and describes the affected environment and regulatory setting for air quality. Potential impacts on the environment and human health due to emissions affecting air quality during implementation of the project are discussed using applicable thresholds where indicated. Mitigation measures that would reduce the project's impacts, where applicable, are also discussed.

Information in this section is based on the *Lost Hills Composting and Waste to Energy Projects Air Quality and GHG Technical Report* (Yorke Engineering 2020), included in Appendix B of this EIR, unless otherwise noted. The report was prepared in accordance with the Kern County Planning and Natural Resources Department *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* and San Joaquin Valley Air Pollution Control District (SJVAPCD) *2015 Guidance for Assessing the Mitigation Air Quality Impacts* (GAMAQI) (SJVAPCD 2015a).

4.2.2 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 entirely in the San Joaquin Valley Air Basin (SJVAB). Air pollutant emissions and other air quality programs in the SJVAB are regulated by the SJVAPCD.

The San Joaquin Valley floor is within the southern end of the SJVAB, which is made up of all or portions of eight counties in California's Central Valley. These counties are Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties, as well as the San Joaquin Valley portion of Kern County. The western portion of Kern County, where the project sites are located, is regulated by the SJVAPCD.

Air pollution in the SJVAB can be attributed to both human-related (anthropogenic) and natural (non-anthropogenic) activities that produce emissions. Air pollution from significant anthropogenic activities in the SJVAB includes a variety of industrial-based sources as well as on- and off-road mobile sources. Activities that tend to increase mobile activity include increases in population, increases in traffic (including automobiles, trucks, aircraft, and rail), urban sprawl (which increases commuter driving distances), and general local land management practices as they pertain to modes of commuter transportation. Air pollution is also transported into the SJVAB from a variety of sources, including northern California and Asia.

Topography and Meteorological Conditions

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 site is in unincorporated western Kern County, in central California. The unincorporated community of Lost Hills is located approximately 4.3 miles to the southeast. Two State highways (State Route [SR-] 46 and SR-33) are located 1.6 miles south and 6.4 miles west, respectively, from the project sites. Interstate (I-) 5 is located approximately 5 miles east of the project site. The closest residences are located approximately 2.3 miles east of the project sites at Munger Farms.

The 250-mile-long SJVAB is in the southern half of California's Central Valley and bordered by mountains on three sides. The SJVAB is bordered by the Sierra Nevada Mountains in the east (8,000 to 14,491 feet above mean sea level [msl] in elevation), the Coast Ranges in the west (averaging 3,000 feet above msl in elevation), and the Tehachapi Mountains in the south (6,000 to 7,981 feet above msl in elevation). There is a slight downward elevation gradient from Bakersfield in the southeast end (408 feet above msl in elevation) to sea level at the northwest end where the valley opens to the San Francisco Bay at the Carquinez Strait. At its northern end is the Sacramento Valley, which comprises the northern half of California's Central Valley. The bowl-shaped topography inhibits movement of pollutants out of the valley.

Subtropical high-pressure events are strongest during spring, summer, and fall and produce subsiding air, which can result in temperature inversions in the valley. Air temperature in the lowest layer of the atmosphere typically decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. The height of the base of the inversion is known as the "mixing height." This is the level to which pollutants can mix vertically. Mixing of air is minimized above the inversion base. The inversion base represents an abrupt density change where little air movement occurs. A temperature inversion can act like a lid, inhibiting vertical mixing of the air mass near the land surface, resulting in trapping of air pollutants below the inversion. Most of the surrounding mountains are above the normal height of summer inversions (1,500 to 3,000 feet). Concentration levels of air pollutants are directly related to inversion layers due to the limitation of vertical mixing. Inversion layers enhance the formation of ozone and limit dispersion of directly emitted pollutants like particulate matter and carbon monoxide.

Wintertime high-pressure events can often last many weeks, with surface temperature often lowering into the 30 degrees Fahrenheit (°F) range. During these events, fog can be present and inversions are extremely strong. These winter-time inversions can inhibit vertical mixing of pollutants to a few hundred feet.

The transport and dispersion of air pollutants in ambient air are influenced by many complex factors. The primary factors are wind, topographical boundaries, and atmospheric stability. During the summer, wind speed and direction data indicate that summer wind usually originates at the north end of the San Joaquin Valley and flows in a south-southeasterly direction through the valley and the Tehachapi Pass, into the Mojave Desert. During the winter months, the San Joaquin Valley experiences light, variable winds, less than 10 miles per hour (mph).

Wind Patterns

The SJVAB's topography has a dominating effect on wind patterns. Winds tend to blow somewhat parallel to the valley and mountain range orientation. In spring and early summer, thermal low-pressure systems develop over the interior basins east of the Sierra Nevada mountain range, and the Pacific High (a high-pressure system that develops over the central Pacific Ocean near the Hawaiian Islands) moves northward. These developments and the topography produce the high incidence of relatively strong northwesterly winds in the spring and early summer.

Diurnal wind regimes markedly affect the horizontal transport of air in the project area. During the summer, northeast winds dominate the daytime regime. These winds, generated by the Pacific High offshore, are enhanced by the San Joaquin Valley orientation and by the thermal low that develops in the Central Valley during this season. In response to this thermal low, air moves inland through passes in the coastal ranges, principally the Carquinez Strait near San Francisco, and flows to the south in the San Joaquin Valley as an up-valley northwesterly wind. This general northwest flow in the San Joaquin Valley is expressed locally as a more northeasterly wind under the influence of local terrain on the west side of the valley.

Dominant nighttime wind directions during summer are markedly different from daytime wind directions. Winds with a northerly component have a low frequency of occurrence at night. The high frequency of west to southwest winds at night is due primarily to down-slope drainage flow.

During the winter months, northerly to northeasterly winds remain dominant in the daytime. However, winds are more variable than during summer, due in part to: (1) the southward migration of the Pacific High and resultant storm passages; (2) the absence of a strong thermal trough; and (3) the varied influence of the Great Basin High. As in summer, winds during winter nights are predominantly from the west to southwest and are associated with drainage flow. Wind speeds are generally higher in summer than in winter in the project area. Calm conditions occur most often in winter but are relatively infrequent during either season.

The mountains to the east, south, and west essentially block the region from transport of very cold air from the mid-continent in winter, and the relatively cool, marine air from the Pacific Ocean during summer. Transport of marine air through the Carquinez Strait during summer has a moderating effect on northern portions of the San Joaquin Valley, but this effect is not great in the southern portion of the valley. In this area, temperature regimes are influenced primarily by topography, with the higher elevations generally experiencing cooler temperatures.

Climate

The overall climate in the SJVAB is warm and semi-arid. The San Joaquin Valley is in a Mediterranean Climate Zone. Mediterranean Climate Zones occur on the west coast of continents at 30 to 40 degrees latitude and are influenced by a subtropical high-pressure area most of the year. Mediterranean climates are characterized by sparse rainfall, which occurs mainly in the winter. There is only one wet season during the year and 90% of the precipitation falls during October through April. Snow in the valley is infrequent and thunderstorms seldom occur. Summers are hot and dry. Summertime maximum temperatures often exceed 100°F in the valley.

In winter, storm systems moving in from the Pacific Ocean bring a maritime influence to the San Joaquin Valley. The Sierra Nevada mountain range prevents the cold, continental air masses from influencing the valley. Temperatures below freezing are unusual. In the southern portion of the SJVAB, average high temperatures in the winter are in the 60s, but highs in the 30s and 40s can occur with persistent fog and low cloudiness. In summer, high temperatures often exceed 100°F, with averages in the mid/high 90s in the southern SJVAB. Summer low temperatures average in the mid-50s in the southern basin.

Precipitation

Precipitation in the SJVAB is strongly influenced by the position of the semi-permanent subtropical high-pressure area located off the Pacific Coast (the Pacific High). In the winter, this high-pressure system moves southward, allowing Pacific storms to move through the SJVAB. Most of the precipitation in the valley is winter rain produced by these storms. Snowstorms, hailstorms, and ice storms occur infrequently in the valley, and severe occurrences are very rare.

Precipitation on the SJVAB floor and in the Sierra Nevada decreases from north to south. This decrease is primarily because the Pacific storm track often passes through the northern part of the State, while the southern part of the State remains protected by the Pacific High. For example, the northern portion of the SJVAB (Manteca and Stockton areas) receives approximately 20 inches of rain per year, the central portion (Fresno area) receives approximately 10 inches of rain per year, and the southern portion (Bakersfield area) receives less than 6 inches of rain per year. The Tejon Pass area receives about 12 inches of rain per year.

Sensitive Receptors

The SJVAPCD identifies a sensitive receptor as a location where human populations, especially children, senior citizens, and sick persons, are present, and where there is a reasonable expectation of continuous human exposure to pollutants, according to the averaging period for ambient air quality standards, such as 24-hour, 8-hour, or 1-hour. Examples of sensitive receptors include residences, hospitals, and schools (SJVAPCD 2015a). Industrial and commercial uses are not considered sensitive receptors.

For this analysis, all land uses other than commercial, agricultural, and industrial are considered sensitive receptors. The project site is in a rural, undeveloped area of northwestern Kern County, north of SR-46. The property is remotely located and is surrounded by open areas to the north, south, and west. The eastern side of the property abuts the Lost Hills Oilfield. The Lost Hills Environmental, LLC Gypsum Mine is an adjacent land use north of the project site. Other adjacent or nearby land uses include row-crop farming, a biosolids/green waste composting operation, an inactive Kern County-operated sanitary landfill, an oilfield, two State highways (SR-46 and SR-33), and I-5. The closest sensitive receptor is a residence located approximately 2.3 miles east of the project site. The closest school to the project site is the combined Lost Hills Elementary School and A.M. Thomas Middle School, approximately 4 miles to the southeast. Other sensitive receptors are located within the community of Lost Hills, approximately 4 miles southeast of the project site.

Ambient Air Quality Standards

National and State Ambient Air Quality Standards

Both the Federal government and State of California have established ambient air quality standards for several different pollutants, which are summarized in **Table 4.2-1, *National and California Ambient Air Quality Standards***. For some pollutants, separate standards have been set for different time periods. Most standards have been set to protect public health. For other pollutants, standards have been based on some other value (such as protection of crops, protection of materials, or avoidance of nuisance conditions).

As required by the Federal Clean Air Act (CAA), the U.S. Environmental Protection Agency (USEPA) has identified criteria pollutants and established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. The NAAQS have been established for ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (less than 10 microns in diameter [PM₁₀] and less than 2.5 microns in diameter [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 (e.g., asthma, 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. The NAAQS are defined as the maximum acceptable concentrations that, depending on the pollutant, may not be equaled or exceeded more than once per year or in some cases as a percentile of observations. California has generally adopted more stringent ambient air quality standards for the criteria air pollutants (i.e., California

Ambient Air Quality Standards [CAAQS]). **Table 4.2-1, National and California Ambient Air Quality Standards and SJVAPCD Attainment Status**, presents both sets of ambient air quality standards (i.e., National and State) as well as attainment status for each of these standards within the SJVAPCD jurisdiction. If a pollutant concentration in an area is lower than the established standard, the area is classified as being in “attainment” for that pollutant. If the pollutant concentration meets or exceeds the standard (depending on the specific standard for the individual pollutants), the area is classified as a “nonattainment” area. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated “unclassified.”

Table 4.2-1 National and California Ambient Air Quality Standards and SJVAPCD Attainment Status

Criteria Pollutant	Averaging Time	California Standards ¹		National Standards ²	
		Concentration ³	SJVAPCD Attainment Status	Primary ^{3,5}	SJVAPCD Attainment Status
Ozone (O ₃)	1-Hour	0.09 ppm (180 µg/m ³)	Nonattainment/ Severe	N/A	No Federal Standard ^f
	8-Hour	0.070 ppm (137 µg/m ³)	Nonattainment	0.075 ppm (147 µg/m ³)	Nonattainment/ Extreme ^e
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m ³)	Attainment	9 ppm (10 mg/m ³)	Attainment/ Unclassified
	1-Hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)	
Nitrogen Dioxide (NO ₂) ⁸	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	Attainment	53 ppb (100 µg/m ³)	Attainment/ Unclassified
	1-Hour	0.18 ppm (339 µg/m ³)		100 ppb (188 µg/m ³) ⁶	
Sulfur Dioxide (SO ₂) ⁸	24-Hour	0.04 ppm (105 µg/m ³)	Attainment	0.14 ppm	Attainment/ Unclassified
	3 Hour	N/A		N/A	
	1-Hour	0.25 ppm (655 µg/m ³)		75 ppb (196 µg/m ³)	
	Annual	N/A		0.030 ppm	
Particulate Matter < 10 Microns in Aerodynamic Diameter (PM ₁₀)	24-Hour	50 µg/m ³	Nonattainment	150 µg/m ³	Attainment
	Annual Arithmetic Mean	20 µg/m ³		N/A	
Particulate Matter < 2.5 Microns in Aerodynamic Diameter (PM _{2.5})	24-Hour	No Separate State Standard	Nonattainment	35 µg/m ³	Nonattainment
	Annual Arithmetic Mean	12 µg/m ³		12 µg/m ³	
Lead (Pb) ^{10,11}	30 days average	1.5 µg/m ³	Attainment	N/A	No Designation/ Classification
	Calendar Quarter	N/A		1.5 µg/m ³	
Visibility Reducing Particles ¹²	8-Hour (10 a.m.–6 p.m. PST)	See footnote 13	Unclassified		
Sulfate	24 Hour	25 µg/m ³	Attainment		
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m ³)	Unclassified	No Federal Standards	
Vinyl Chloride ¹⁰	24 Hour	0.01 ppm (26 µg/m ³)	Attainment		

Table 4.2-1 National and California Ambient Air Quality Standards and SJVAPCD Attainment Status

Notes: ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter; km = kilometers; RH = relative humidity; PST = Pacific standard time; N/A =not applicable.

- ¹ California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10} , $\text{PM}_{2.5}$, and visibility-reducing particles) are values that are not to be exceeded. All others are not to be equalled or exceeded. The CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- ² National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10} , the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one. For $\text{PM}_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the USEPA for further clarification and current national policies.
- ³ Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- ⁴ Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
- ⁵ National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- ⁶ National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- ⁷ Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.
- ⁸ On December 14, 2012, the national annual $\text{PM}_{2.5}$ primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour $\text{PM}_{2.5}$ standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$ as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM_{10} standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 30 years.
- ⁹ To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of ppm. To directly compare the national 1-hour standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 100 ppb and 100 ppb are identical to 0.100 ppm.
- ¹⁰ On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
- ¹¹ The CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- ¹² The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ($1.5 \mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- ¹³ In 1989, the CARB converted both the general Statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the Statewide and Lake Tahoe Air Basin standards, respectively.

Source: Yorke Engineering 2020.

Local Air Quality

To assess localized air quality impacts, the CO significance thresholds are based on the state CO standards, shown previously in **Table 4.2-1, National and California Ambient Air Quality Standards and SJVAPCD Attainment Status**, which are 20 parts per million (ppm) for 1-hour CO concentration levels and 9 ppm for 8-hour CO concentration levels. If CO concentration levels with the project would be less than the standards, then there would be no significant impact on local air quality. If future CO concentrations with the project would be above the standards, then the increase due to the project would determine if the impact would be significant or less than significant. A project would have a significant impact on local air quality if the project would result in an increase of 1 ppm or more for the 1-hour averaging time or 0.45 ppm or more for the 8-hour averaging time.

Existing Attainment Status

As shown in **Table 4.2-1, National and California Ambient Air Quality Standards and SJVAPCD Attainment Status**, the SJVAPCD is currently classified as nonattainment/severe for the 1-hour State ozone standard as well as nonattainment and nonattainment/extreme for the National and State 8-hour ozone standards, respectively. Additionally, the SJVAPCD is classified as nonattainment for the State 24-hour PM₁₀ standard and the Federal and State PM_{2.5} standards. The SJVAPCD is currently in attainment and/or unclassified status for all other ambient air quality standards. California has also established CAAQS for sulfates, hydrogen sulfide, and vinyl chloride; however, emissions of these pollutants are not expected to be generated by the project; therefore, these pollutants are not addressed further in this EIR.

Regional and Local Ambient Air Monitoring

The CARB has established and maintains a network of sampling stations (called the State and Local Air Monitoring Stations [SLAMS] network) that work in conjunction with local air pollution control districts (APCDs) and air quality management districts (AQMDs) to monitor ambient pollutant levels. The SLAMS network in Kern County consists of eight stations that monitor various pollutant concentrations. The locations of these stations were chosen to meet monitoring objectives, which, for the SLAMS network, call for stations that monitor the highest pollutant concentrations, representative concentrations in areas of high population density, the impact of major pollution emissions sources, and general background concentration levels.

Existing and probable future air quality in the project area can best be inferred from examining ambient air quality measurements taken at monitoring stations in the vicinity of the project area. The primary pollutants of concern in the project area are ozone, PM₁₀, and PM_{2.5} because the San Joaquin Valley is designated nonattainment for these pollutants by the USEPA and/or CARB. Ten ambient air monitoring stations operate in Kern County, eight of which are in the valley portion of Kern County and two of which are in the desert portion of Kern County. The closest monitoring station for ozone and NO₂ is the Shafter Walker Street station, located about 30 miles to the east-southeast; for PM₁₀ and PM_{2.5}, the Bakersfield California Avenue station is the closest, located about 44 miles to the southeast; and for CO, the Bakersfield Muni South Union Avenue station is the closest, located about 48 miles to the southeast. SO₂ is not monitored in Kern County; the nearest station is in Fresno.

Table 4.2-2, Air Quality Data Summary (2016–2018), shows the monitoring results for the criteria pollutants for the past 3 years from these air quality monitoring stations. As indicated in **Table 4.2-2**, there have been numerous exceedances of the ozone, PM₁₀, and PM_{2.5} standards during the 3-year study period.

Table 4.2-2 Air Quality Data Summary (2016–2018)

Pollutant and Averaging Period	2016		2017		2018		
	Max. Conc. ¹	Days Exceeded	Max. Conc. ¹	Days Exceeded	Max. Conc. ¹	Days Exceeded	
O ₃	State 1-Hour	96	–	94	–	107	8
	National 8-Hour	87	49	82	27	98	34
NO ₂	State 1-Hour	47.8	0	47.6	0	48	0
	National 1-Hour	36.7	0	39.6	0	38	0
	Annual	9		9	0	9.59	0
CO	1-Hour	1.44	0	1.85	0	1.9	0
	8-Hour	1.1	–	1.2	–	1.3	0
SO ₂	1-Hour	8.0	0	7.7	0	7.2	0
	24-Hour	2.0	0	2.3	0	2.3	0
PM ₁₀	State 24-Hour	92.2	21	143.6	16	136.1	--
	State Annual	40.9	0	42.6	0	42.1	0
	National 24-Hour	90.9	0	138.0	0	136	0
PM _{2.5}	State Annual	16.0	–	15.9	–	15.6	--
	National 24-Hour	47.0	23	71.8	28	98.5	40.3
	National Annual	16.5	–	15.7	–	17.6	--

Notes: Max Con = maximum concentrations

¹ O₃, NO₂, SO₂, maximum concentrations in parts per billion (ppb); CO in parts per million (ppm) and PM₁₀, and PM_{2.5} in micrograms per cubic meter (µg/m³).

Source: Yorke Engineering 2020.

Criteria Air Pollutants

The following is a general description of the physical and health effects from the governmentally regulated air pollutants shown in **Table 4.2-1**, *National and California Ambient Air Quality Standards and SJVAPCD Attainment Status*.

Ozone

Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. Here, at ground level, troposphere, or “bad,” ozone is an air pollutant that damages human health, vegetation, and many common materials. It is a key ingredient of urban smog. The troposphere extends to a level about 10 miles up where it meets the second layer, the stratosphere. The stratospheric or “good” ozone layer extends upward from about 10–30 miles and protects life on earth from the sun's harmful ultraviolet rays.

“Bad” ozone is what is known as a photochemical pollutant. It needs reactive organic gases (ROGs), nitrogen oxides (NO_x), and sunlight to form. ROG and NO_x are emitted from various sources throughout Kern County. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors.

Ozone is a regional air pollutant. It 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 harmful ultraviolet radiation, 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 also damages natural ecosystems, such as forests and foothill communities; agricultural crops; and some manmade materials, such as rubber, paint, and plastic. High levels of ozone may negatively affect immune systems, making people more susceptible to respiratory illnesses, including bronchitis and pneumonia. Ozone also accelerates aging and exacerbates pre-existing asthma and bronchitis. Evidence has linked the onset of asthma to exposure to elevated ozone levels in exercising children (CARB 2020a). Active people, both children and adults, appear to be more at risk from ozone exposure than those with a low level of activity. In addition, the elderly and those with respiratory disease are also considered sensitive populations for ozone.

Ozone is a powerful oxidant—it can be compared to household bleach, which can kill living cells (such as germs or human skin cells) upon contact. Ozone can damage the respiratory tract, causing inflammation and irritation, and it can induce symptoms, such as coughing, chest tightness, shortness of breath, and worsening of asthmatic symptoms. Ozone in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. Exposure to levels of ozone above the current ambient air quality standard leads to lung inflammation, lung tissue damage, and a reduction in the amount of air inhaled into the lungs. Health effects include potential increased susceptibility to respiratory infections and reduced ability to exercise. Health effects are more severe in people with asthma and other respiratory ailments. People who work or play outdoors are at a greater risk for harmful health effects from ozone. Children and adolescents are also at greater risk because they are more likely than adults to spend time engaged in vigorous activities. Research indicates that children under 12 years of age spend nearly twice as much time outdoors daily than adults. Teenagers spend at least twice as much time as adults in active sports and outdoor activities. Also, children inhale more air per pound of body weight than adults, and they breathe more rapidly than adults. Children are less likely than adults to notice their own symptoms and avoid harmful exposures. Elevated ozone concentrations also reduce crop and timber yields, damage native plants, and damage materials such as rubber, paints, fabric, and plastics (CARB and American Lung Association of California 2007).

Reactive Organic Gases (ROGs) and Volatile Organic Compounds (VOCs)

Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases, including ROGs and volatile organic compounds (VOCs), which include all hydrocarbons except those exempted by CARB. Therefore, ROGs are a set of organic gases based on State rules and regulations. VOCs are similar to ROGs in that they include all organic gases except those exempted by Federal law. The list of compounds exempt from the definition of a VOC is presented in District Rule 102.

Both VOCs and ROGs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. Combustion engine exhaust, oil refineries, and oil-fueled power plants are the primary sources of hydrocarbons. Another source of hydrocarbons is evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

Health Effects

The primary health effects of hydrocarbons result from the formation of ozone and its related health effects (see the ozone health effects discussion above). High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. There are no separate Federal or California ambient air quality standards for ROG. Carcinogenic forms of ROG are considered toxic air contaminants (TACs). An example is benzene, which is a carcinogen. The health effects of individual ROGs are described under the “Toxic Air Contaminants” heading below.

Carbon Monoxide (CO)

CO is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is an odorless, colorless, poisonous gas that is highly reactive. CO is a byproduct of motor vehicle exhaust, which contributes more than 66% of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95% 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. Health effects observed may include an early onset of cardiovascular disease; behavioral impairment; decreased exercise performance of young, healthy men; reduced birth weight; sudden infant death syndrome; and increased daily mortality rate (Fierro et al. 2001).

Most of the studies that evaluate the adverse health effects of CO on the central nervous system examine high-level poisoning. Such poisoning results in common flu and cold symptoms (shortness of breath on mild exertion, mild headaches, and nausea) to unconsciousness and death. At extremely high concentrations, CO is poisonous and can cause death (USEPA 2016a).

Nitrogen Oxides (NO_x)

NO_x is a family of highly reactive gases that is a primary precursor to the formation of ground-level ozone and reacts in the atmosphere to form acid rain. NO_x is emitted from solvents and combustion processes in which fuel is burned at high temperatures, principally motor vehicle exhaust and stationary sources such as electric utilities and industrial boilers. 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. NO_x is also an ozone precursor that combines with ROG to form ozone (see discussion above for the health effects of ozone).

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 also cause a wide range of health effects. NO_x can irritate the lungs, cause lung damage, and lower resistance to respiratory infections such as influenza. Short-term exposures (e.g., less than 3 hours) to low levels of nitrogen dioxide (NO₂) may lead to changes in airway responsiveness and lung function in individuals with preexisting respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposures to NO₂ may lead to increased susceptibility to respiratory infection and may cause irreversible lung damage. Other health effects are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. 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.

NO_x contributes to a wide range of environmental effects both directly and indirectly when combined with other precursors in acid rain and ozone. Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems such as those found in estuarine and coastal waters

can lead to eutrophication (a condition that promotes excessive algae growth, which can lead to a severe depletion of dissolved oxygen and increased levels of toxins harmful to aquatic life). Nitrogen, alone or in acid rain, also can acidify soils and surface waters. Acidification of soils causes the loss of essential plant nutrients and increased levels of soluble aluminum, which is toxic to plants. Acidification of surface waters creates conditions of low pH and levels of aluminum that are toxic to fish and other aquatic organisms. NO_x also contributes to visibility impairment (California Air Pollution Control Officers Association [CAPCOA] 2016).

Sulfur Dioxide (SO₂)

Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to sulfur dioxide (SO₂) during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO₂ to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

SO₂ is a colorless, irritating gas with a “rotten egg” smell that is formed primarily by the combustion of sulfur-containing fossil fuels. Historically, SO₂ was a pollutant of concern in Kern County, but with the successful implementation of regulations, the levels have been reduced significantly.

Health Effects

High concentrations of SO₂ can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Short-term exposures of individuals to elevated SO₂ levels during moderate activity may result in breathing difficulties that can be accompanied by symptoms such as wheezing, chest tightness, or shortness of breath. Other effects that have been associated with longer-term exposures to high concentrations of SO₂, in conjunction with high levels of particulate matter, include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs’ defenses. SO₂ also is a major precursor to PM_{2.5}, which is a significant health concern and a main contributor to poor visibility (see also the discussion of health effects of particulate matter).

SO₂ not only has a bad odor, it can irritate the respiratory system. Exposure to high concentrations for short periods of time can constrict the bronchi and increase mucous flow, making breathing difficult. SO₂ can also irritate the lung and throat at concentrations greater than 6 parts per million (ppm) in many people, impair the respiratory system’s defenses against foreign particles and bacteria when exposed to concentrations less than 6 ppm for longer time periods, and enhance the harmful effects of ozone (combinations of the two gases at concentrations occasionally found in the ambient air appear to increase airway resistance to breathing).

SO₂ tends to have more toxic effects when acidic pollutants, liquid or solid aerosols, and particulates are also present. Effects are more pronounced among “mouth breathers,” e.g., people who are exercising or who have head colds. These effects include:

- Health problems, such as episodes of bronchitis requiring hospitalization associated with lower-level acid concentrations;
- Self-reported respiratory conditions, such as chronic cough and difficult breathing, associated with acid aerosol concentrations (individuals with asthma are especially susceptible to these effects. The elderly and those with chronic respiratory conditions may also be affected at lower concentrations than the general population);
- Increased respiratory tract infections associated with longer-term, lower-level exposures to SO₂ and acid aerosols; and
- Subjective symptoms, such as headaches and nausea, in the absence of pathological abnormalities due to long-term exposure.

SO₂ can also easily injure many plant species and varieties, both native and cultivated. Some of the most sensitive plants include various commercially valuable pines, legumes, red and black oaks, white ash, alfalfa, and blackberry. The effects include:

- Visible injury to the most sensitive plants at exposures as low as 0.12 ppm for 8 hours;
- Visible injury to many other plant types of intermediate sensitivity at exposures of 0.30 ppm for 8 hours; and
- Positive benefits from low levels in a very few species growing on sulfur-deficient soils.

In addition, increases in SO₂ concentrations accelerate the corrosion of metals, probably through the formation of acids. SO₂ is a major precursor to acidic deposition. Sulfur oxides may also damage stone and masonry, paint, various fibers, paper, leather, and electrical components.

Increased SO₂ also contributes to impaired visibility. Particulate sulfate, much of which is derived from SO₂ emissions, is a major component of the complex total suspended particulate mixture.

Particulate Matter (PM₁₀ and PM_{2.5})

Particulate matter 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. Particulate matter is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals. Particulate matter also forms when gases emitted from motor vehicles and industrial sources undergo chemical reactions in the atmosphere. PM₁₀ refers to particles less than or equal to 10 microns in aerodynamic diameter. PM_{2.5} refers to particles less than or equal to 2.5 microns in aerodynamic diameter and is a subset of PM₁₀. Particulate matter or airborne dusts are the small particles that remain suspended in the air for long periods of time. Particulates of concern are PM₁₀ and PM_{2.5}, which

are small enough to be inhaled, pass through the respiratory system, and lodge in the lungs, possibly leading to adverse health effects.

The composition of PM₁₀ and PM_{2.5} can vary greatly with time, location, the sources of the material, and meteorological conditions. Dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes are the main components of PM₁₀ and PM_{2.5}. In addition to those listed previously, secondary particles can also be formed as precipitates from photochemical reactions of gaseous SO₂ and NO_x in the atmosphere to create sulfates (SO₄) and nitrates (NO₃), respectively. Secondary particles are of greatest concern during the winter months when low inversion layers tend to trap the precursors of secondary particulates.

In the western United States, there are sources of PM₁₀ in both urban and rural areas. PM₁₀ and PM_{2.5} are emitted from stationary and mobile sources, including diesel trucks and other motor vehicles; power plants; industrial processes; wood-burning stoves and fireplaces; wildfires; dust from roads, construction, landfills, and agriculture; and fugitive windblown dust. Because particles originate from a variety of sources, their chemical and physical compositions vary widely.

Health Effects

The size of particles is directly linked to their potential for causing health problems. PM₁₀ and PM_{2.5} particles are small enough—about one-seventh the thickness of a human hair or smaller—to be inhaled and lodged in the deepest parts of the lung where they evade the respiratory system's natural defenses. Health problems begin as the body reacts to these foreign particles. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. PM₁₀ and PM_{2.5} can aggravate respiratory disease and cause lung damage, cancer, and premature death. Sensitive populations, including children, the elderly, exercising adults, and those suffering from chronic lung disease such as asthma or bronchitis, are especially vulnerable to the effect of PM₁₀. Of greatest concern are recent studies that link PM₁₀ exposure to the premature death of people who already have heart and lung disease, especially the elderly. Acidic PM₁₀ can also damage manmade materials and is a major cause of reduced visibility in many parts of the United States. Non-health-related effects include reduced visibility and soiling of buildings.

Premature deaths linked to particulate matter are now at levels comparable to deaths from traffic accidents and secondhand smoke. One of the most dangerous pollutants, fine particulate matter (e.g., from diesel exhaust) not only bypasses the body's defense mechanisms and becomes embedded in the deepest recesses of the lung but also can disrupt cellular processes. Population-based studies in hundreds of cities in the United States and around the world have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks. Long-term studies of children's health conducted in California have demonstrated that particulate pollution may significantly reduce lung function growth in children (CARB and American Lung Association of California 2007).

A study conducted in 2006 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% excess risk of dying from lung cancer due to fine particulate air pollution (Pope and Dockery 2006). Another study shows that individuals with existing cardiac disease can be in a potentially life-threatening situation when exposed to high levels of fine air pollution. Fine particles can penetrate the lungs and cause the heart to beat irregularly, or can cause inflammation, which could lead to a heart attack (Peters et al. 2001).

Attaining the California particulate matter standards would annually prevent about 6,500 premature deaths, or 3% of all deaths. These premature deaths shorten lives by an average of 14 years. This is roughly equivalent to the same number of deaths (4,200 to 7,400) linked to secondhand smoke in 2000. In comparison, motor vehicle crashes caused 3,200 deaths, and 2,000 deaths resulted from homicide. Attaining the California particulate matter and ozone standards would annually prevent 4,000 hospital admissions for respiratory disease, 3,000 hospital admissions for cardiovascular disease, and 2,000 asthma-related emergency room visits. Exposure to diesel particulate matter causes about 250 excess cancer cases per year in California.

Sulfates (SO₄⁻²)

Sulfates (SO₄⁻²) are particulate product that comes from the combustion of sulfur-containing fossil fuels. When sulfur monoxide (SO) or SO₂ is exposed to oxygen, it precipitates out into sulfates (SO₃ or SO₄). Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO₂ during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO₂ to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

Health Effects

CARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in oxygen intake, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility and because they are usually acidic, can harm ecosystems and damage materials and property (CARB 2009).

Lead (Pb)

Lead (Pb) 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 the use of gasoline-powered automobile engines run on leaded fuels, a major source of airborne lead, has been mostly phased out, the ambient concentrations of lead have dropped dramatically.

Health Effects

Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children, resulting in learning deficits and lowered IQ. Recent studies also show that lead may be a factor in high blood pressure and subsequent heart disease. Lead can also be deposited on the leaves of plants, presenting a hazard to grazing animals and humans through ingestion (USEPA 2021).

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 damage to the brain and nervous system, behavior and learning problems (such as hyperactivity), slowed growth, hearing problems, and headaches.

Lead is also harmful to adults and can cause adults to suffer from difficulties during pregnancy, other reproductive problems (in both men and women), high blood pressure, digestive problems, nerve disorders, memory and concentration problems, and muscle and joint pain.

Since the 1980s, lead has been phased out in gasoline, reduced in drinking water, reduced in industrial air pollution, and banned or limited in consumer products.

Other Pollutants

The following is a general description of the source and health effects from other pollutants of concern, including hydrogen sulfide (H₂S), vinyl chloride, visibility-reducing particles, toxic air contaminants (TACs), diesel particulate matter (DPM), Airborne Fungus (Valley Fever), and asbestos.

Hydrogen Sulfide (H₂S)

Hydrogen sulfide (H₂S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. H₂S in the atmosphere would likely oxidize into SO₂ that can lead to acid rain. At low concentrations H₂S, which has a characteristic “rotten egg” smell, may cause irritation to the eyes, mucous membranes, and respiratory system; dizziness; and headaches. In high concentrations, hydrogen sulfide is extremely hazardous (800 ppm can cause death), especially in enclosed spaces. Occupational Safety and Health Administrations (OSHA) have the primary responsibility for regulating workplace exposure to H₂S.

Health Effects

Exposure to low concentrations of H₂S 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 H₂S (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 H₂S (0.00011–0.00033 ppm). Deaths due to breathing in large amounts of H₂S have been reported in a variety of different work settings, including sewers, animal processing plants, waste dumps, sludge plants, oil and gas well drilling sites, and tanks and cesspools.

Vinyl Chloride

Vinyl chloride monomer is a sweet-smelling, colorless gas at ambient temperature. Landfills, publicly owned treatment works, and polyvinyl chloride (PVC) production are the major identified sources of vinyl chloride emissions in California. PVC can be fabricated into several products, such as PVC pipes, pipe fittings, and plastics.

Health Effects

In humans, epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of liver angiosarcoma, which is a rare cancer, and have suggested a relationship between exposure cancers of the lung and brain. There are currently no adopted ambient air standards for vinyl chloride.

Short-term exposure to vinyl chloride has been linked with the following acute health effects (USEPA 2000):

- Acute exposure of humans to high levels of vinyl chloride through inhalation 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 2000):

- Liver damage may result in humans from chronic exposure to vinyl chloride, through both inhalation and oral exposure.
- A small percentage of individuals occupationally exposed to high levels of vinyl chloride in air have developed a set of symptoms termed “vinyl chloride disease,” which is characterized by Raynaud’s phenomenon (fingers blanch and numbness and discomfort are experienced upon exposure to the cold), changes in the bones at the end of the fingers, joint and muscle pain, and scleroderma-like skin changes (thickening of the skin, decreased elasticity, and slight edema).
- Central nervous system effects (including dizziness, drowsiness, fatigue, headache, visual and/or hearing disturbances, memory loss, and sleep disturbances) as well as peripheral nervous system symptoms (peripheral neuropathy, tingling, numbness, weakness, and pain in fingers) have also been reported in workers exposed to vinyl chloride.

Several reproductive/developmental health effects from vinyl chloride exposure have been identified (USEPA 2000):

- Several case reports suggest that male sexual performance may be affected by vinyl chloride. However, these studies are limited by lack of quantitative exposure information and possible co-occurring exposure to other chemicals.
- Several epidemiological studies have reported an association between vinyl chloride exposure in pregnant women and an increased incidence of birth defects, while other studies have not reported similar findings.
- Epidemiological studies have suggested an association between men occupationally exposed to vinyl chloride and miscarriages during their wives’ pregnancies, although other studies have not supported these findings.
- Long-term exposure to vinyl chloride has also been identified as a cancer risk. Inhaled vinyl chloride has been shown to increase the risk of a rare form of liver cancer (angiosarcoma of the liver) in humans. Animal studies have shown that vinyl chloride, via inhalation, increases the incidence of angiosarcoma of the liver and cancer of the liver.

Visibility-Reducing Particles

This standard is a measure of visibility. The CARB does not yet have a measurement method that is accurate or precise enough to designate areas in the State as being in attainment or nonattainment. Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. Except for Lake County (which is designated to be in attainment), California’s attainment status with respect to visibility-reducing particles is currently designated as unclassified.

Toxic Air Contaminants (TACs)

Hazardous air pollutants (HAPs) is a term used by the Federal CAA that includes a variety of pollutants generated or emitted by industrial production activities. Called toxic air contaminants (TACs) under the California Clean Air Act (CCAA) of 1988, 10 pollutants have been identified through ambient air quality data as posing the most substantial health risk in California. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to brain and nervous system, and respiratory disorders. The CARB provides emission inventories for only the larger air basins.

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. TACs do not have ambient air quality standards. Since no safe levels of TACs can be determined, there are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The requirements of the Air Toxic “Hot Spots” Information and Assessment Act apply to facilities that use, produce, or emit toxic chemicals. Facilities that are subject to the toxic emission inventory requirements of the CCAA must prepare and submit toxic emission inventory plans and reports to the CARB and periodically update those reports. While TACs do result in potential health risks for those exposed, the proposed project would not emit TACs except for DPM; therefore, only DPM is described further in this analysis.

Diesel Particulate Matter (DPM)

DPM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled engines contribute about 24% of the Statewide total, with an additional 71% attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources contribute about 5% 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 (COEHHA). CARB estimates that about 70% of the cancer risk that the average Californian faces from breathing TACs stems from diesel exhaust particles (CARB 2021).

In its comprehensive assessment of diesel exhaust, the COEHHA 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 COEHHA’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 (NIOSH), have calculated cancer risks from diesel exhaust that are similar to those calculated by the COEHHA 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.

Diesel engines are a major source of fine-particle pollution. The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. Numerous studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Because children's lungs and respiratory systems are still developing, they are also more susceptible than healthy adults to fine particles. Exposure to fine particles is associated with increased frequency of childhood illnesses and can reduce lung function in children. In California, diesel exhaust particles have been identified as carcinogens (COEHHA 2020).

Airborne Fungus (Valley Fever)

Coccidioidomycosis, commonly referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-moving activities and become airborne. Agricultural workers, construction workers, and other people who work outdoors and who are exposed to wind and dust are more likely to contract Valley Fever. Children and adults whose hobbies or sports activities expose them to wind and dust are also more likely to contract Valley Fever. After the fungal spores have settled in the lungs, they change into a multicellular structure called a spherule. Fungal growth in the lungs occurs as the spherule grows and bursts, releasing endospores, which then develop into more spherules.

Approximately 60% of Valley Fever cases are mild and display flu-like symptoms or no symptoms at all. Of those who are exposed and seek medical treatment, the most common symptoms include fatigue, cough, loss of appetite, rash, headache, and joint aches. In some cases, painful red bumps may develop on the skin.

One important fact to mention is that these symptoms are not unique to Valley Fever and may be caused by other illnesses as well. Identifying and confirming this disease require specific laboratory tests such as: (1) microscopic identification of the fungal spherules in infected tissue, sputum, or body fluid sample; (2) growing a culture of CI from a tissue specimen, sputum, or

body fluid; (3) detection of antibodies (serological tests specifically for Valley Fever) against the fungus in blood serum or other body fluids; and (4) administering the Valley Fever Skin Test (called coccidioidin or spherulin), which indicates prior exposure to the fungus (Valley Fever Center for Excellence [VFCE] 2019a). It should be noted that the portion of Kern County that resides within the SJVAB has the highest incident rate for Valley Fever within California.

Valley Fever is not contagious and therefore cannot be passed on from person to person. Most of those who are infected would recover without treatment within 6 months and would have a life-long immunity to the fungal spores. In severe cases, especially in those patients with rapid and extensive primary illness, those who are at risk for dissemination of disease, and those who have disseminated disease, antifungal drug therapy is used. The type of medication used and the duration of drug therapy are determined by the severity of disease and response to the therapy. The medications used include ketoconazole, itraconazole, and fluconazole in chronic, mild-to-moderate disease, and amphotericin B, given intravenously or inserted into the spinal fluid, for rapidly progressive disease. Although these treatments are often helpful, evidence of disease may persist, and years of treatment may be required (VFCE 2019a).

Table 4.2-3, *Range of Valley Fever Cases*, presents the range of Valley Fever cases based on research conducted by the VFCE.

Table 4.2-3 Range of Valley Fever Cases

Infection Classification	Percent of Total Diagnosed Cases
Unapparent infections	60%
Mild to moderate infections	30%
Infections resulting in complications	5–10%
Fatal infections	<1%

Source: VFCE 2019b.

The usual course of Valley Fever in healthy people is complete recovery within 6 months. In most cases, the body's immune response is effective, and no specific course of treatment is necessary. About 5% of cases of Valley Fever result in pneumonia (infection of the lungs), while another 5% of patients develop lung cavities after their initial infection with Valley Fever. These cavities occur most often in older adults, usually without symptoms, and about 50% of them disappear within 2 years. Occasionally, these cavities rupture, causing chest pain and difficulty breathing, and require surgical repair. Only 1% to 2% of those exposed who seek medical attention would develop a disease that disseminates (spreads) to other parts of the body other than the lungs (VFCE 2019b).

Factors that affect the susceptibility to coccidioidal dissemination are race, sex, pregnancy, age, and immunosuppression. While there are no racial or gender differences in susceptibility to primary infection with coccidioidomycosis, differences in risk of disseminated infection do appear to exist. Men have a higher rate of dissemination than do women and several studies have shown that the rate of dissemination in African Americans and Filipinos is several times higher than in the rest of the U.S. population. Native Americans, Hispanics and Asians may

also have a higher rate of dissemination than the general population, but these population differences are not well defined (VFCE 2019c).

The CI fungal spores are often found in the soil around rodent burrows, Indian ruins, and burial grounds. The spores become airborne when the soil is disturbed by winds, construction, farming, and soil-disturbing activities. This type of fungus is endemic to the southwestern United States and more common in Kern County. The ecological factors that appear to be most conducive to the survival and replication of the fungal spores are high summer temperatures, mild winters, sparse rainfall, and alkaline, sandy soils. During drought years, the number of organisms competing with CI decreases, and the CI remains alive but dormant. When rain finally occurs, the arthroconidia germinate and multiply more than usual because of a decreased number of other competing organisms. Later, the soil dries out in the summer and fall, and the fungi can become airborne and potentially infectious.

Asbestos

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% of all asbestos contained in buildings in the United States. Asbestos occurs in certain geologic environments that contain serpentinite and ultramafic rocks, which are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties associated with the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. According to information provided by the California geologic Survey, the project site is not located in an area where naturally occurring asbestos is likely to be present (California Geological Survey [CGS] 2011).

Asbestos can only adversely affect humans in its fibrous form and these fibers must be broken and dispersed into the air and then inhaled. During geological processes, the asbestos mineral can be crushed, causing it to become airborne. It also enters the air or water from the breakdown of natural deposits. Constant exposure to asbestos at high levels on a regular basis may cause cancer in humans. The two most common forms of cancer are lung cancer and mesothelioma, a rare cancer of the lining that covers the lungs and stomach.

Coronavirus Disease 2019 (COVID-19)

Coronavirus Disease 2019 (COVID-19) is a new disease, caused by a novel (or new) human coronavirus that has not previously been seen in humans. The first known case of COVID-19 was confirmed in the United States on January 20, 2020 (Holshue et al. 2020). There are many types of human coronaviruses, including some that commonly cause mild upper-respiratory tract illnesses. COVID-19 is a respiratory illness that can spread from person to person. According to the Center for Disease Control (CDC), older adults and people who have severe underlying medical conditions like heart or lung disease or diabetes seem to be at higher risk for developing more serious complications from COVID-19 illness. Symptoms may appear 2 to 14 days after exposure to the virus and may include, but are not limited to, fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, and diarrhea (CDC 2020a). According to the CDC, COVID-19 is believed to spread between people who are in

close contact with one another (within about 6 feet) through respiratory droplets produced when an infected person coughs, sneezes, or talks (CDC 2020b). COVID-19 research and causality are still in the beginning stages. A nationwide study by Harvard University found a linkage between long-term exposure to PM_{2.5} (averaged from 2000–2016) as air pollution and statistically significant increased risk of COVID-19 death in the United States (Wu et al. 2020).

Odors

Typically, odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from the psychological (i.e., irritation, anger, or anxiety) to the physiological (e.g., circulatory and respiratory effects, nausea, vomiting, headache). The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor and in fact an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word strong to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Neither the state nor the Federal governments have adopted rules or regulations for the control of odor sources. The SJVAPCD does not have an individual rule or regulation that specifically addresses odors; however, odors would be subject to SJVAPCD's Rule 4102, Nuisance. Any actions related to odors would be based on citizen complaints to local governments and the SJVAPCD.

4.2.3 Regulatory Setting

In California, air quality is regulated by several agencies, including the USEPA, the CARB, and local air districts such as the SJVAPCD. Each of these agencies develops rules and/or regulations to attain the goals or directives imposed upon them through legislation. Although 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 SJVAB, which is under the jurisdiction of the SJVAPCD.

Federal

U.S. Environmental Protection Agency (USEPA)

The principal air quality regulatory mechanism on the Federal level is the CAA and, in particular, the 1990 amendments to the CAA and the NAAQS that it establishes. These standards identify levels of air quality for “criteria” pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants include ozone, CO, NO₂ (which is a form of NO_x), SO₂ (which is a form of SO_x), PM₁₀, PM_{2.5}, and lead. 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 aircraft, 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 providing research and guidance in air pollution programs. The SIP is a State-level document that identifies all air pollution control programs within California that are designed to help the State meet the NAAQS.

As discussed previously and shown in **Table 4.2-1, National and California Ambient Air Quality Standards and SJVAPCD Attainment Status**, the USEPA has designated the portion of the SJVAB where the project is located within Kern County as being in attainment or unclassified with respect to all NAAQS with the exception of the 8-hour ozone standard and the PM_{2.5} NAAQS. Attainment defines the status of a given airshed regarding NAAQS requirements. Airsheds not meeting these standards are classified as “nonattainment.”

State

California Air Resources Board (CARB)

The 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 CCAA, responding to the Federal CAA requirements, and regulating emissions from motor vehicles sold in California. It 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 more stringent than the Federal standards in most cases, although recently promulgated NAAQS for 1-hour NO₂ and SO₂ can in some instances be more stringent than the respective CAAQS. As shown in **Table 4.2-1, National and California Ambient Air Quality Standards and SJVAPCD Attainment Status**, the Kern County portion of the SJVAB is designated as nonattainment for the State ozone, PM₁₀, and PM_{2.5} standards. Concentrations of all other pollutants are presumed to meet State standards as the area is designated as either attainment or unclassified.

The CARB is also responsible for regulations pertaining to TACs. The Air Toxics “Hot Spots” Information and Assessment Act (Assembly Bill [AB] 2588, 1987, Connelly) was enacted in 1987 to establish a formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release into the air basin. Each APCD 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.

The CARB also has on- and off-road engine emission-reduction programs that would indirectly affect the project’s emissions through the phasing in of cleaner on- and off-road engines. Additionally, the CARB has a Portable Equipment Registration Program that allows owners or operators of portable engines and associated equipment to register their units under a Statewide program to operate their equipment, which must meet specified program emission requirements, throughout California, without having to obtain individual permits from local air districts. Since the project is not proposing to install any applicable stationary sources, the AB 2588 program would not apply to the project.

In 2007, the CARB enacted a regulation for the reduction of diesel particulate matter and criteria pollutant emissions from in-use off-road diesel-fueled vehicles (13 California Code of Regulations [CCR] Article 4.8, Chapter 9, Section 2449). This regulation provides target emission rates for particulate matter and NO_x emissions for owners of fleets of diesel-fueled off-road vehicles and applies to equipment fleets of three specific sizes, and the target emission rates are reduced over time.

Title V and Extreme Designation

Title V of the Federal CAA, as amended in 1990, creates an operating permits program for certain defined sources. In general, owner/operators of defined industrial or commercial sources that emit more than 25 tons per year (TPY) of NO_x and ROG must process a Title V permit. In “Extreme Designation” areas, the definition of a major source which requires Title V permitting changes from 25 TPY to 10 TPY. This change results in more businesses having to comply with Title V permitting requirements under the Extreme nonattainment designation.

Title V does not impose any new air pollution standards, require installation of any new controls on the affected facilities, or require reductions in emissions. Title V does enhance public and USEPA participation in the permitting process and requires additional record-keeping and reporting by businesses, which results in significant administrative requirements.

California Renewable Portfolio Standard (RPS) Program

Established in 2002 under SB 1078, and accelerated by SB 107 in 2006 and SB 2 in 2011, California’s Renewable Portfolio Standard (RPS) obligates investor-owned utilities, energy service providers, and community choice aggregators to procure 33% of their electricity from renewable energy sources by 2020. In 2015, SB 350 further increased the Renewables Portfolio Standard to 50% by 2030. The legislation also included interim targets of 40% by 2024 and 45% by 2027. The California Public Utilities Commission (CPUC) and the California Energy

Commission (CEC) are jointly responsible for implementing the program. SB 100, signed into law in September 2018, requires California utilities to increase the percentages of renewable energy sold to retail customers. The new targets are for 50% renewable resources by December 31, 2026, 60% by December 31, 2030, and 100% from eligible renewable energy resources and zero-carbon resources by 2045.

Local

Construction and operation of the landfill, composting, and bioenergy facilities would be subject to policies and regulations contained within the general and specific plans, including the *Kern County General Plan*, Kern County Zoning Ordinance, and Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to air quality. The policies and implementation measures in the *Kern County General Plan* related to air quality that are applicable to the project are provided below. The *Kern County General Plan* contains additional policies, goals, and implementation measures that are more general in nature and not specific to development, such as the project. These measures are not listed below, but as stated in Chapter 2, *Introduction*, all policies, goals, and implementation measures in the *Kern County General Plan* are incorporated by reference.

Kern County General Plan

Chapter 1. Land Use, Open Space, And Conservation Element

1.10 General Provisions

1.10.2 Air Quality

Goals

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

Policies

Policy 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.

Policy 19: In considering discretionary projects for which an EIR must be prepared pursuant to the California Environmental Quality Act (CEQA), the appropriate decision-making body, as part of its deliberations, will ensure that:

- (a) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and

- (b) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to 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 Eastern Kern Air Pollution Control District on ministerial permits.

Policy 21: The County shall support air districts' efforts to reduce PM₁₀ and PM_{2.5} emissions.

Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, State, and local standards.

Policy 23: The County shall continue to implement the local government control measures in coordination with the Kern Council of Governments and the San Joaquin Valley Unified Air Pollution Control District.

Implementation Measures

Implementation Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.

Implementation 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.

Implementation 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) Residential fireplaces – Does not apply
- (g) Bicycle lockers – Does not apply
- (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.

Implementation Measure J: The County should include PM₁₀ control measures as conditions of approval for subdivision maps, site plans, and grading permits.

Chapter 5. Energy Element

5.4 Electricity Resources and Generation

5.4.4 Transformation Development

Goals

Goal: To provide for careful siting of proven transformation technologies which provide for minimum risks to the environment and to public and safety.

Policies

Policy 2: The County should encourage the safe and orderly development of biomass conversion facilities as an alternative to burning agricultural wastes.

Policy 3: When evaluating proposals for transformation plants, the County should take under consideration whether the projects will produce air pollutant emissions in quantities that could reduce the ability to site other energy projects.

San Joaquin Valley Air Pollution Control District (SJVAPCD)

The project site, located in the SJVAB portion of Kern County, is under jurisdiction of the SJVAPCD. The SJVAPCD inspects stationary sources of air pollution and responds to citizen complaints; monitors ambient air quality and meteorological conditions; and implements programs and regulations required by the Federal CAA, Federal CAA Amendments, and CCAA. The SJVAPCD also maintains air quality plans to attain NAAQS and CAAQS. SJVAPCD regulations that may apply to the proposed project include Regulation II (Permits) and Regulation VIII (Fugitive PM₁₀ Prohibitions).

The SJVAPCD has developed the following plans to attain and maintain the State and Federal standards:

1. The 2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standard.
2. The 2016 Plan for the 2008 8-hr Ozone Standard.
3. The 2013 Plan for the Revoked 1-hour Ozone Standard.
4. The 2004 Revisions to the Carbon Monoxide Maintenance Plan.

One-Hour Ozone Plan

The CARB submitted the SJVAPCD's 2004 Extreme Ozone Attainment Demonstration Plan to the USEPA on November 15, 2004. The plan was amended by the SJVAPCD in 2008. Effective June 15, 2005, the USEPA revoked the Federal 1-hour ozone ambient air quality standard, finding that the 8-hour ozone standard was more health protective. Under Federal anti-backsliding provisions, the SJVAPCD has continued to implement the 2004 plan's control measures and emissions reductions strategies. The District developed a new plan for USEPA's revoked 1-hour ozone standard, which was adopted by the SJVAPCD's Governing Board on September 19, 2013.

Eight-Hour Ozone Plan

The SJVAPCD adopted the 2007 Ozone Plan on April 30, 2007. This far-reaching plan, with innovative measures and a "dual path" strategy, ensures expeditious attainment of the Federal 8-hour ozone standard established by the USEPA in 1997. The plan projects that the SJVAB will achieve the 8-hour ozone standard for all areas of the SJVAB no later than 2023. The CARB approved the plan on June 14, 2007. The USEPA approved the 2007 Ozone Plan effective April 30, 2012. The more stringent 8-hour ozone standard was adopted June 16, 2016.

PM₁₀ Maintenance Plan

Based on PM₁₀ measurements from 2003–2006, the USEPA found that the SJVAB has achieved the Federal PM₁₀ NAAQS. On September 21, 2007, the SJVAPCD's Governing Board adopted the 2007 PM₁₀ Maintenance Plan and Request for Redesignation. This plan demonstrates that the SJVAB will continue to meet the PM₁₀ standard. The USEPA approved the document and effective December 12, 2008, the SJVAB was redesignated to attainment for the PM₁₀ NAAQS.

2008 PM_{2.5} Plan

The SJVAB is designated nonattainment for Federal PM_{2.5} standards. The USEPA established its first PM_{2.5} standards in 1997. The USEPA strengthened the 24-hour standard in 2006 and the annual standard in 2013. Building on the strategy used in the 2007 Ozone Plan, the SJVAPCD agreed to additional control measures to reduce directly produced PM_{2.5}. The SJVAPCD's Governing Board adopted the 2008 PM_{2.5} Plan on April 30, 2008. The plan demonstrates that the SJVAB will achieve the 1997 annual PM_{2.5} NAAQS of 15 micrograms

per cubic meter ($\mu\text{g}/\text{m}^3$) by 2014. The CARB approved the plan on May 22, 2008. The USEPA approved most provisions of the 2008 $\text{PM}_{2.5}$ Plan effective January 9, 2012.

2012 $\text{PM}_{2.5}$ Plan

The SJVAPCD adopted the 2012 $\text{PM}_{2.5}$ Plan on December 20, 2012. The plan demonstrates that the SJVAB will achieve the 2006 24-hour $\text{PM}_{2.5}$ NAAQS of $35 \mu\text{g}/\text{m}^3$ by 2019. The CARB approved the plan on January 24, 2013. The SJVAPCD will need to revise its $\text{PM}_{2.5}$ strategy in the future to address attainment of the 2013 annual standard. These plans include emissions inventories; projected changes in population, vehicles, fuels, and equipment; and the consequent changes in the associated emission levels. The plans then identify existing rules and additional proposed measures required to reduce emissions and ensure compliance with the ambient air quality standards. These rules and proposed measures include requirements to obtain permits to construct and operate, and rules regulating the allowable emissions from various activities or classes of equipment.

2009 Reasonably Available Control Technology Demonstration for Ozone State Implementation Plans (RACT SIP)

On April 16, 2009, the Governing Board adopted the Reasonably Available Control Technology Demonstration for Ozone State Implementation Plans (2009 RACT SIP) (SJVAPCD 2009a). In part, the 2009 RACT SIP satisfied the commitment by the SJVAPCD for a new RACT analysis for the 1-hour ozone plan (see discussion of the EPA withdrawal of approval in the Extreme 1-Hour Ozone Attainment Demonstration Plan summary above) and was intended to prevent all sanctions that could be imposed by EPA for failure to submit a required SIP revision for the 1-hour ozone standard. With respect to the 8-hour standard, the plan also assesses the SJVAPCD's rules based on the adjusted major source definition of 10 tons per year (due to the SJVAB's designation as an extreme ozone nonattainment area), evaluates SJVAPCD rules against new Control Techniques Guidelines promulgated since August 2006, and reviews additional rules and rule amendments that had been adopted by the Governing Board since August 17, 2006, for RACT consistency.

2013 Plan for the Revoked 1-Hour Ozone Standard

The SJVAPCD developed a plan for the USEPA's revoked 1-hour ozone standard after the USEPA withdrew its approval of the 2004 Extreme 1-Hour Ozone Attainment Demonstration Plan as a result of litigation. As a result of the litigation, the USEPA reinstated previously revoked requirements for 1-hour ozone attainment plans. The 2013 plan addresses those requirements, including a demonstration of implementation of Reasonably Available Control Measures and a demonstration of a rate of progress averaging 3% annual reductions of ROG or NO_x emissions every 3 years. The 2013 Plan for the Revoked 1-Hour Ozone Standard was approved by the Governing Board on September 19, 2013 (SJVAPCD 2013). Based on implementation of the ongoing control measures, preliminary modeling indicates that the SJVAB will attain the 1-hour ozone standard by 2017, before the final attainment year of 2022 and without relying on long-term measures under CAA Section 182(e)(5) ("black box reductions"). 2014 RACT SIP On June 19, 2014, the SJVAPCD adopted the 2014 Reasonably

Available Control Technology Demonstration for the 8-Hour Ozone State Implementation Plan (2014 RACT SIP) (SJVAPCD 2014). This RACT SIP includes a demonstration that the SJVAPCD rules implement RACT. The plan reviews each of the NO_x reduction rules and concludes that they satisfy requirements for stringency, applicability, and enforceability and meet or exceed RACT. The plan's analysis of further ROG reductions through modeling and technical analyses demonstrates that added ROG reductions will not advance SJVAB's ozone attainment. Each ROG rule evaluated in the 2009 RACT SIP, however, has been subsequently approved by the USEPA as meeting RACT within the last 2 years. The ozone attainment strategy, therefore, focuses on further NO_x reductions.

SJVAPCD Rules and Regulations

Current SJVAPCD rules identified as applicable to project emission sources include the following:

Regulation II – Permits

Regulation II (Rules 2010–2550) is a series of rules covering permitting requirements within the air basin. SJVAPCD regulations require any person constructing, altering, replacing, or operating any source operation that emits, may emit, or may reduce emissions to obtain an Authority to Construct or a Permit to Operate. Most new stationary sources, if they emit over 2 pounds of pollutants per day, will be subject to Best Available Control Technology in accordance with the SJVAPCD's New and Modified Stationary Source Review Rule and to the New Source Review (NSR) Rule.

Rule 2010 – Permits Required

Rule 2010 requires that an Authority to Construct permit (an NSR permit) and a Permit to Operate be obtained prior to constructing, altering, replacing, or operating any device that emits or may emit air contaminants.

Rule 2020 – Exemptions

Rule 2020 specifies criteria that emission units must meet to be exempt from SJVAPCD permit requirements. The rule also specifies the recordkeeping requirements to verify the exemption and outlines the compliance schedule for emission units that lose the exemption after installation. Rule 2020 applies to any source that emits or may emit air contaminants.

Rule 2201 – New and Modified Stationary Source Review

Rule 2201 provides for the review of new and modified stationary sources of air pollution and provides mechanisms, including emission offsets, by which ATCs of such sources may be granted without interfering with the attainment or maintenance of AAQS. The SJVAPCD NSR rule applies to all new stationary sources and all modifications to existing stationary sources which are subject to SJVAPCD permit requirements. The rule generally requires that new or modified equipment include best available control technology (BACT) and that emission increases above specified thresholds be offset.

Best Available Control Technology

Pursuant to Section 4.1 of Rule 2201, BACT is triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. The proposed Project results in an increase in VOC emissions over 2 pounds per day and will trigger BACT for VOCs. The facility already has a landfill gas collection and abatement system, including a flare, which met BACT when installed. The composting facility would be constructed with the eASP technology for aerating the compost piles and be operated with a biofilter layer of cured compost. Aerated piles with a biofilter would satisfy BACT for composting.

Offsets

Pursuant to Section 4.5.3 of Rule 2201, offsets are triggered on a pollutant-by-pollutant basis and are required if the post-project stationary source potential to emit (PTE) is equal to or greater than the emissions offset threshold levels listed in Rule 2201. Based on the emission estimates for the project, VOC emission offsets would be required for this project due to an increase in VOC emissions from the landfill and compost facility. The facility's emissions from permitted sources would not exceed the offset threshold for any other criteria pollutants.

Public Notification

Pursuant to Section 5.4 of Rule 2201, public notification and publication are required for the following types of applications:

- New Major Sources, Federal Major Modifications, and SB 288 Major Modification;
- Any new emission unit with a potential to emit greater than 100 pounds during any one day for any one affected pollutant;
- Modifications that increase the Stationary Source Potential to Emit (SSPE1) from a level below the emissions offset threshold level to a level exceeding the emissions offset threshold level for one or more pollutants;
- New stationary sources with SSPE2 exceeding the emissions offset threshold level for one or more pollutants; and
- Any permitting action resulting in a Stationary Source Increase in Permitted Emissions (SSIPE) exceeding 20,000 pounds per year for any one pollutant.

The facility is a new major source based on the emission calculations for this project. Therefore, public notification is required and will be done pursuant to the requirements.

Ambient Air Quality Analysis (AAQA)

Rule 2201 requires an AAQA to determine whether a new or modified stationary source will cause or make worse a violation of an air quality standard.

Rule 2410 – Prevention of Significant Deterioration (PSD)

The SJVAPCD was delegated authority to implement the federal PSD Program in 2012. Rule 2410 incorporates the PSD requirements from 40 CFR 51. PSD applies to pollutants for which the SJVAPCD is in attainment or unclassified, such as NO_x and CO, as well as projects resulting in significant increases of other regulated pollutants. The proposed project is not one of the 28 listed categories under PSD, and hence it would only be subject to the PSD program if the stationary source potential to emit (PTE) for attainment criteria pollutants is greater than 250 TPY or the project would impact a federal Class I area. Since neither of these conditions apply, the project is not expected to be subject to PSD.

Rule 2520 – Federally Mandated Operating Permits

Operating permits are required for major sources with a PTE over specific thresholds that are based on the attainment status of the area, major sources of hazardous air pollutants (HAPs), or which are subject to certain federal regulations. This requirement comes from Title V of the Clean Air Act Amendments of 1990. Consequently, these types of operating permits are frequently called Title V permits.

In the San Joaquin Valley, Title V permits are issued by the SJVAPCD pursuant to Rule 2520.

The PTE for the proposed Project is expected to exceed the SJVAPCD major source threshold of 10 TPY for VOCs. The facility is also subject to Title V permitting due to the applicability of NSPS (see below). The rule requires a completed application to be filed within 12 months of becoming subject to the rule.

Regulation III – Fees

Regulation III (Rules 3010–3901) is a series of rules covering fee requirements within the air basin.

Rule 3010 – Permit Fee

Every applicant for an Authority to Construct or a Permit to Operate any source operation for which an Authority to Construct or a Permit to Operate is required by California State Law or the District Rules and Regulations shall pay a nonrefundable filing fee of \$87 per permit unit, except as provided in Section 1.2 of this rule.

Rule 3135 (Dust Control Plan Fee)

Rule 3135 requires the applicant to submit a fee in addition to a Dust Control Plan. The purpose of this fee is to recover SJVAPCD's cost for reviewing these plans and conducting compliance inspections.

Regulation IV – Prohibitions

Regulation IV (Rules 4001–4905) is a series of rules covering prohibitions within the air basin.

Rule 4001 – New Source Performance Standards

This rule incorporates NSPS from 40 CFR Part 60 and applies to new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60 which meet the applicability requirements. The following NSPS are potentially applicable to municipal solid waste (MSW) landfills:

Subpart Cf – Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

This subpart is applicable to MSW landfills commencing construction prior to May 30, 1991. The facility began operation in 1993 and is assumed to have commenced construction after May 30, 1991. Therefore, the facility is not subject to this subpart.

Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills

This subpart is applicable to MSW landfills commencing construction, reconstruction, or modification after May 30, 1991. The facility began operation in 1993 and is assumed to have commenced construction after May 30, 1991. Further, pursuant to 40 CFR 60.752(b), Subpart WWW is applicable to any MSW landfill having a design capacity equal to or greater than 2.5 million cubic meters. The existing facility has a design capacity of about 12 million cubic meters. Therefore, the facility is subject to the applicable requirements of Subpart WWW. The requirements are included in 40 CFR 60.752(b) and are summarized as follows:

- The MSW landfill is subject to 40 CFR Part 70 or 71 (Title V) permitting requirements;
- If the calculated non-methane organic compounds (NMOC) emission rate is less than 50 megagrams per year, the owner or operator shall:
 - i. Submit an annual emissions report to the Administrator, except as provided for in §60.757(b)(1)(ii); and
 - ii. Recalculate the NMOC emission rate annually using the procedures specified in §60.754(a)(1) until such time as the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, or the landfill is closed.
- If the NMOC emission rate, upon recalculation required in paragraph (b)(1)(ii) of this section, is equal to or greater than 50 megagrams per year, the owner or operator shall install a collection and control system in compliance with 40 CFR §60.757(b)(2).

Currently the Lost Hills SWMFNMOC emissions are below 50 megagrams per year; thus, annual emissions calculations and reporting are required. However, the NMOC emissions are expected to exceed this threshold at some point during the life of the landfill with the projected accumulation of organic wastes through 2030. At that point, a landfill gas collection system would be required pursuant to Subpart WWW.

Subpart XXX – Standards of Performance for Municipal Solid Waste Landfills That Commence Construction, Reconstruction, or Modification after July 17, 2014

This subpart is applicable to MSW landfills that commenced construction, reconstruction, or modification after July 17, 2014. These standards incorporate improved technology and operating requirements for reducing emissions of landfill gas relative to Subpart WWW. Further, pursuant to 40 CFR 60.752(b), Subpart WWW is applicable to any MSW landfill having a design capacity equal to or greater than 2.5 million cubic meters. The existing facility has a design capacity of about 12 million cubic meters. The proposed project, which only entails extended hours of operation and an expanded list of approved wastes is not a modification as defined by the rule. Therefore, 40 CFR 60 Subpart XXX is not applicable to the landfill as a result of the proposed project.

Rule 4002 – National Emission Standards for Hazardous Air Pollutants (NESHAP)

This rule incorporates the NESHAPs from both 40 CFR Part 61 and 40 CFR Part 63 and applies to sources of HAPs as defined in each subpart.

Subpart AAAA – NESHAP for Municipal Solid Waste Landfills

Pursuant to 40 CFR 63.1935(a)(1), NESHAP Subpart AAAA is applicable to an MSW landfill that is a major source for HAPs. Towards the end of the useful life of the landfill, methanol emissions may exceed 10 tons per year, triggering the applicability of this subpart. This subpart requires the operation of a gas collection and control system that meets the criteria in 40 CFR 60.752(b)(2)(v) of 40 CFR Part 60, Subpart WWW. As discussed above, the facility is subject to Subpart WWW and will install a gas collection system (GCS) and a control device to achieve compliance with the rule.

Rule 4101 – Visible Emissions

Rule 4101 prohibits visible air contaminant discharge into the atmosphere for a period or periods aggregating more than 3 minutes in any 1 hour, with 20% opacity or greater.

Rule 4102 – Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; endanger the comfort, repose, health, or safety of any such person or the public; or cause or have a natural tendency to cause injury or damage to business or property.

Rule 4105 – Commercial Offsite Multiuser Hazardous Waste and Nonhazardous Waste Disposal Facilities

This rule applies to any commercial offsite multi-user hazardous or nonhazardous waste disposal facility licensed under the provisions of Division 20, Chapter 6.5 of the California

Health and Safety Code. The rule requires that prior to the construction, modification, or operation of any such facility, an ATC and a permit to operate must be obtained.

Rule 4201 – Particulate Matter Concentration

Rule 4201 applies to sources which emit or may emit dust, fumes, or total suspended particulate. Section 3.0 prohibits discharge of dust, fumes, or total particulate into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot. The expected PM emission concentrations are less than 0.1 grain/dscf, and compliance with this rule is expected.

Rule 4202 – Particulate Matter Emission Rate

Rule 4202 limits PM emissions by establishing allowable emission rates. Per Section 4.0 of Rule 4202, PM emissions from any source operation shall not exceed the allowable hourly emission rate (E) as determined by the Rule 4202. Compliance with Rule 4202 is expected.

Rule 4311 – Flares

The purpose of this rule is to limit the emissions of VOCs and NO_x from the operation of flares. Pursuant to Section 4.2 of this rule, flares subject to NSPS Subpart WWW are exempt. The facility is subject to NSPS Subpart WWW and is exempt from the requirements of this rule.

Rule 4565 – Biosolids, Animal Manure, and Poultry Litter Operations

Receipt of biosolids and animal waste material is proposed as part of this project. Therefore, the requirements of this rule apply to the handling and processing of these materials. For landfills, the rule requires that biosolids, animal manure, or poultry litter be covered with 6 inches of compost or soil or a waterproof covering within 24 hours of disposal. For compost operations processing more than 100,000 wet tons per year, the rule requires that the facility implement mitigation measures as specified in the rule. The facility is expected to be in compliance with the applicable rule requirements for the biosolids and animal waste disposal and composting.

Rule 4566 – Composting Operations

A new composting operation is proposed that is subject to the provisions of this rule. The rule requires that active composting be initiated within 3 days following receipt of the organic material, covered with a waterproof material, or removed from the site. While composting, the facility must implement mitigation measures as specified in the rule. The facility is expected to be in compliance with the applicable rule requirements.

Rule 4642 – Solid Waste Disposal Facilities

This rule is intended to reduce VOC emissions from solid waste disposal sites. The rule applies to any solid waste disposal site which has a GCS. Section 4.1.2 of this rule exempts solid waste

sites subject to NSPS. This facility is subject to NSPS Subpart WWW and hence is exempt from the requirements of this rule.

Rule 4801 – Sulfur Compounds

This rule limits the emissions of sulfur compounds. The rule applies to any discharge to the atmosphere of sulfur compounds which would exist as a liquid or a gas at standard conditions. The rule prohibits the discharge into the atmosphere of sulfur compounds in concentrations greater than 2,000 ppmv as SO₂ on a dry basis averaged over 15 consecutive minutes. The facility is expected to operate in compliance with this rule.

Regulation VIII – Fugitive PM₁₀ Prohibitions

Regulation VIII (Rules 8011–8081) is a series of rules designed to reduce PM₁₀ emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, etc.

Rule 8011 – General Requirements

The purpose of Regulation VIII (Fugitive PM₁₀ Prohibitions) is to reduce ambient concentrations of PM₁₀ by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. The rules contained in Regulation VIII have been developed pursuant to EPA guidance for serious PM₁₀ nonattainment areas. The rules are applicable to specified anthropogenic fugitive dust sources. Fugitive dust contains PM₁₀ and particles larger than PM₁₀.

Rule 8021 – Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities

This rule limits fugitive dust emissions from construction, demolition, excavation, extraction, and other earthmoving activities. This rule applies to any such activity and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on-site, and travel on access roads to and from the site. This rule also applies to the construction of new landfill disposal sites or modification to existing landfill disposal sites prior to commencement of landfilling activities.

Rule 8031 – Bulk Materials

The purpose of the rule is to limit fugitive dust emissions from the outdoor handling, storage, and transport of bulk materials. The rule applies to the outdoor handling, storage, and transport of any bulk material.

Rule 8041 – Carryout and Track-Out

This rule limits fugitive dust emissions from carryout and track-out. The rule applies to all sites that are subject to any of the following rules where carryout or track-out has occurred or may

occur on paved public roads or the paved shoulders of a paved public road: Rules 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities), 8031 (Bulk Materials), 8061 (Paved and Unpaved Roads), and 8071 (Unpaved Vehicle and Equipment Traffic Areas).

Rule 8051 – Open Areas

The purpose of this rule is to limit fugitive dust emissions from open areas. This rule applies to any open area having 0.5 acres or more within urban areas or 3.0 acres or more within rural areas that contains at least 1,000 square feet of disturbed surface area.

Rule 8061 – Paved and Unpaved Roads

This rule limits fugitive dust emissions from paved and unpaved roads by implementing control measures and design criteria. This rule applies to any new or existing public or private paved or unpaved road, road construction project, or road modification project.

Rule 8071 – Unpaved Vehicle/Equipment Traffic Areas

The purpose of this rule is to limit fugitive dust emissions from unpaved vehicle and equipment traffic areas. This rule applies to any unpaved vehicle/equipment traffic area.

Regulation IX – Mobile and Indirect Sources

Regulation IX (Rules 9110-9610) is a series of rules designed to reduce emissions generated by mobile and indirect sources.

Rule 9110 – General Conformity

This rule specifies the criteria and procedures for determining the conformity of federal actions with the SJVAPCD's air quality implementation plan. The rule generally applies to federal actions (federal approval of projects) which would result in regionally significant emissions increases or a major increase in emissions of nonattainment pollutants that are not otherwise subject to NSR.

This project is not subject to federal approval (i.e., is not a "federal action") and does not trigger requirements for conducting a general conformity analysis.

Rule 9510 – Indirect Source Review

The purpose of Indirect Source Review (ISR) is to reduce emissions of NO_x and PM₁₀ from new development projects. New development projects may contribute to the air pollution problem in the valley by increasing the number of vehicles and vehicle miles traveled.

Rule 9510 applies to development projects that have not yet gained discretionary approval. However, there are several sources that are exempt. These include transportation projects that meet certain conditions, reconstruction projects that result from a natural disaster, and

development projects on a facility whose primary functions are subject to Rule 2201 (New and Modified Stationary Source Review Rule) or Rule 2010 (Permits Required), including solid waste landfills.

This project is not subject to ISR. The project is exempt from ISR requirements pursuant to Rule 9510, Section 4.4.3.

Air Quality Conformity Determination for Transportation Plans and Programs

The CAA Amendments of 1990 require a finding to be made stating that any project, program, or plan subject to approval by a metropolitan planning organization conforms to air plans for attainment of air quality standards. The Kern Council of Governments (Kern COG) is designated the Regional Transportation Planning Agency and Metropolitan Planning Organization for Kern County. In that capacity, Kern COG models air quality projections on population projections in conjunction with current general plan designations and estimated vehicle miles as well as the current Regional Transportation Plan (RTP) and the Federal transportation plan for Kern County. These results are compared to pollutant budgets for each basin approved by the USEPA in the 1999 base year. Kern County is contained within two air basins: SJVAB and the Mojave Desert Air Basin. Each air basin has its own plans and pollutant budgets. Kern COG makes conformity findings for each air basin.

Kern County recently prepared a Conformity Determination for the Kern COG 2017 Federal Transportation Improvement Program (FTIP) (Amendment #9) and the 2014 RTP/Sustainable Communities Strategy (SCS) (Amendment #2). The FTIP for the Kern County region is a 6-year schedule of multimodal transportation improvements, and the RTP is a long-range, 26-year transportation plan. The conformity findings conclude that the FTIP and RTP result in emissions that are less than the emission budgets of baseline emissions for CO, VOC, NO_x, and PM₁₀ (Kern COG 2017).

4.2.4 Impacts and Mitigation Measures

This section describes the impact analysis relating to air quality for the proposed project. It describes the methods used to determine the impacts of the proposed project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, where applicable, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

The air quality significance criteria were developed considering the CEQA significance criteria developed by the local air quality district in the project area, approved CEQA air quality checklists, and other Federal criteria. The analysis presented within this section is based on both qualitative and quantitative approaches for determining air quality impacts associated with

construction, operation, and maintenance of the project. The air quality impact analysis is based on *Lost Hills Composting and Waste to Energy Projects Air Quality and GHG Technical Report* (Yorke Engineering 2020), included in Appendix B of this EIR and incorporated by reference herein. The report was prepared in accordance with the SJVAPCD GAMAQI (SJVAPCD 2015a) and Kern County Planning and Natural Resources Department’s *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports*.

Emissions were estimated for each proposed project component, including the landfill, composting, and bioenergy facilities. The methods employed to calculate emissions associated with these components are described below.

Landfill Facility

Baseline Emissions

The landfill facility is existing and results in the generation of criteria pollutants (i.e., VOCs) due to the anaerobic decomposition of biodegradable waste. Existing landfill gas emissions were estimated to characterize the baseline period. Baseline emissions were estimated using the emission model LandGEM (v3.02, 2005), which is an Excel-based public-domain software available from the USEPA.

As provided in **Table 4.2-4, *Landfill Baseline Criteria Pollutant Emissions***, the landfill facility currently emits 9.8 TPY of VOCs.

Table 4.2-4 Landfill Baseline Criteria Pollutant Emissions

Category	NO _x	VOC	CO	SO _x	PM ₁₀	PM _{2.5}
Landfill Gas	0	9.8	0	0	0	0

Project Emissions

The existing Lost Hills Environmental Industrial Landfill is currently permitted to accept up to 2,000 tons per day (TPD) of waste and is proposed to remain at this level following implementation of the proposed project. While the total permitted capacity of the landfill would not change, total wastes have been below the maximum 2,000 TPD permitted level from 2009 to 2019. Because the proposed project would result in the disposal of waste streams not currently accepted by the landfill, baseline emissions and emissions resulting from the additional waste streams were estimated through 2030.

The landfill would involve the use of on-road and off-road vehicles and equipment, which results in exhaust emissions from the combustion of fuel. Additionally, handling waste would result in emissions of fugitive dust. However, because the changes to the existing landfill would not increase truck traffic or waste disposal volumes, emissions from these sources are not expected to change. Therefore, emissions associated with on-road and off-road vehicles and equipment and fugitive dust emissions were not estimated.

Operation of the landfill would generate landfill gas emissions due to the anaerobic decomposition of biodegradable waste. Landfill emissions were estimated using the emission model LandGEM. Detailed LandGEM files and spreadsheets showing the landfill gas emissions for each year up to 2133 are included in Appendix B. The landfill emissions calculated include criteria pollutants/precursors and TACs.

eASP Composting System

Construction emissions would occur from activities involving the use of construction equipment/vehicles and worker vehicles associated with construction and operation of the proposed composting facility. The construction emission analysis was performed using the California Emissions Estimation Model (CalEEMod, version 2016.3.2), the official Statewide land use computer model designed to provide a uniform platform for estimating potential criteria pollutant emissions. CalEEMod was run based on information received from the applicant regarding the number of workers, number of worker/delivery trucks and trip lengths, and construction equipment schedule. The analysis assumed an average of 39 temporary construction workers, up to 26 one-way vehicle trips per day for an average of 51 miles per trip. The types of vehicles and equipment and the travel distance included in the analysis are presented in the CalEEMod output files in Appendix B. It was assumed that vehicles would travel 51 miles per day. Vehicles included in the analysis consisted of passenger cars, half-ton and three-quarter-ton pickup trucks, 1-ton pickup trucks, and four-axle or greater trucks. Construction equipment included in the analysis included water trucks, wheel loaders, front-end loaders, rollers, and compactors

Operation emissions would occur from on-road mobile source emissions resulting from employee travel, routine business travel, the transport of compostable feedstock material to the facility, and the transport of finished product from the facility. The emissions from on-road mobile sources were calculated using EMFAC2017 emission factors. Emissions were calculated for each vehicle category and fuel type using the total vehicle miles traveled (VMT) or other information depending on the EMFAC2017 component being calculated. The exhaust emissions from on-road vehicles were calculated for off-site travel as well as on-site travel. The off-site mileage and the on-site mileage were also used to calculate fugitive dust emissions from travel on paved and unpaved roads.

On-road emissions include running exhaust, idling exhaust, and startup exhaust. Fugitive particulate emissions include tire wear and brake wear. Fugitive hydrocarbon emissions include running loss, resting loss, hot soak, and diurnal emissions. The emissions from each component are included in the total emissions reported.

Operation emissions would also occur from the use of off-road mobile sources expected to be used at the compost facility for mixing and moving feedstock between compost processing and loading finished compost product into delivery truck. Off-road emissions were calculated based on the type of engine used to power the equipment, the size of the engine, the engine load, and the equipment operating hours. More information on how off-road emissions were calculated is provided in Appendix B.

Bioenergy Facility

Construction emissions would occur from activities involving the use of construction equipment/vehicles and worker vehicles associated with construction and operation of the proposed bioenergy facility. Additionally, grading, excavation, filling, and other construction activities would result in increased dust emissions. The construction emission analysis was performed using CalEEMod, version 2016.3.2. CalEEMod was run based on default data regarding number of delivery trucks and trip lengths, and construction equipment schedule. The analysis assumed an average of up to 58 one-way vehicle trips per day for an average vehicle trip length of up to 100 miles. Operation emissions would occur from the handling of feedstock material, the use of a thermal oxidizer, an emergency generator, firewater pump, and delivery and worker vehicle exhaust. The calculation methods for each of these emission sources are described in more detail below.

Material Handling

The only criteria pollutants associated with material handling are PM₁₀ and PM_{2.5}. Emission factors for drop operations for each of the material handling drop points from the USEPA's Compilation of Air Pollutant Emission Factors (AP-42) Chapter 13.2.4, Aggregate Handling and Storage Piles were used to estimate the emissions for material handling.

Thermal Oxidizer

A thermal oxidizer is used to decompose hazardous gases at a high temperature and release them into the atmosphere. Emissions from the thermal oxidizer are based on the composition of fuel used to preheat the thermal oxidizer. Criteria pollutant emissions from the fuel combustion were calculated based on source test results from a similar bioenergy plant times the maximum design heat input rating based on syngas derived from 100% agricultural wood feedstock.

Emergency Generator

A 500-kilowatt (kW) diesel-driven emergency power generation unit would be provided to supply critical emergency power needs. Non-emergency use for testing and maintenance would be limited to 50 hours per year. The criteria pollutant emission factors are based on Tier 4 standards for nonroad engines. The DPM emissions were assumed to be the same as the PM₁₀ emissions.

Firewater Pump

A 150-kW diesel-driven firewater pump unit will be provided as part of the plant's fire protection equipment. Non-emergency use for testing and maintenance will be limited to 50 hours per year. The criteria pollutant emission factors are based on Tier 3 standards for nonroad engines, plus Tier 4 for use of a particulate filter. The DPM emissions were assumed to be the same as the PM₁₀ emissions.

Mobile Sources

Delivery truck and worker vehicle exhaust and off-site paved road dust emissions during operation were calculated using CalEEMod. Off-site travel emissions are based on approximately 160 miles round trip (e.g., to and from Bakersfield), all on paved roads. On-site and near-site unpaved and paved road dust emissions were estimated based on emission factors from USEPA AP-42 (USEPA 1995). All truck and worker engine exhaust PM₁₀ were considered to be DPM.

Combined Facilities

The SJVAPCD requires an ambient air quality analysis (AAQA) if daily or annual project emissions exceed SJVAPCD thresholds of significance. These thresholds are provided in **Table 4.2-5, Air Quality Thresholds of Significance – Criteria Pollutants**. Because the combined operational emissions from the proposed project exceeded several SJVAPCD thresholds, an AAQA was conducted for operational emissions. An AAQA was not conducted for combined construction emissions because estimated emissions do not exceed the SJVAPCD thresholds identified in Table 4.2-5.

Table 4.2-5 Air Quality Thresholds of Significance – Criteria Pollutants

Pollutant / Precursor	Construction Emissions (Tons per Year)	Operational Emissions (Tons per Year)	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
CO	100	100	100
NO _x	10	10	10
ROG	10	10	10
SO _x	27	27	27
PM ₁₀	15	15	15
PM _{2.5}	15	15	15

Source: Yorke Engineering 2020

The AAQA was performed to determine whether or not criteria pollutant emissions resulting from the proposed project would cause or contribute significantly to a violation of NAAQS or CAAQS. The dispersion model AERMOD was used to simulate the atmospheric transport and dispersion of airborne pollutants and to quantify the maximum expected ground-level concentrations from proposed project emissions.

The AAQA modeled each pollutant separately using maximum emission rates for the appropriate averaging time. Two steps were taken to model emission rates. The first step combined the modeled concentration with a conservative background concentration for comparison to the AAQS. If the project plus background concentration was less than the AAQS, then proposed project emissions would have a less-than-significant impact. This Step 1 technique was used to assess the impacts of the proposed project's NO₂, CO, and SO₂ emissions.

Per SJVAPCD guidance, for pollutants where the background concentration is already greater than the AAQS, a second step is required to compare the maximum modeled concentration to the corresponding Significant Impact Level (SIL). The SIL is expressed as an ambient pollutant concentration (micrograms per cubic meter [$\mu\text{g}/\text{m}^3$]) and is used to determine whether the ambient impact of a particular pollutant (once it is determined to be emitted in significant amounts) is significant enough to warrant a complete source impact analysis involving modeling the collective impacts of the proposed project and emissions from other existing sources.

If the proposed project concentration is less than the corresponding SIL, then proposed project emissions would not contribute significantly to a violation of NAAQS or CAAQS. This Step 2 technique was conducted for PM_{10} and $\text{PM}_{2.5}$ as the background concentrations of these pollutants have been greater than the AAQS, as previously described in **Table 4.2-2**, *Air Quality Data Summary (2016–2018)*, in Section 4.2.2, *Environmental Setting*.

Health Risk Analysis

A Health Risk Assessment (HRA) estimates potential acute, chronic, and carcinogenic health risks from a project. The SJVAPCD and Kern County Planning and Natural Resources Department require the examination of TAC emissions from the project to determine the need for an HRA. To determine the need for an HRA, a two-step process is used based on guidance from the COEHHA hotspot guidance document (COEHHA 2015), the California Air Pollution Control Officers Association (CAPCOA) facility prioritization guidelines, and SJVAPCD policy APR-1906 (SJVAPCD. 2018). The first step in the process involves calculating a screening prioritization score. If the prioritization score exceeds CAPCOA established thresholds, then there is potential for high health risks and an HRA would be required.

The prioritization score was estimated based on the project TAC emissions, the distance to the nearest receptor, and the COEHHA cancer unit risk factors (URFs) and acute and chronic reference exposure levels (RELs). Risk prioritization scores for the project were calculated using the CAPCOA Dispersion Adjustment Procedure, which considers the effects of dispersion by adjusting the risk score based on the height of the release point and the distance to a nearby receptor.

The prioritization score was estimated at the nearest sensitive receptor, which is a residence located approximately 2.3 miles east of the project. The distance was measured from the closest edge of the project (i.e., eastern edge of the compost area) to the closest portion of the residence's property. To ensure that all potential exposure from the project was examined, the prioritization score was also estimated at the nearest business receptor, located approximately 0.9 mile east of the project. As provided in Impact 4.2-2, the HRA resulted in an intermediate prioritization score. Given the intermediate score and absence of sensitive receptors located within 2 miles of the project, a refined HRA was not necessary to determine that the proposed project's TAC emissions will have a less-than-significant health risk.

Ambient Air Quality Analysis

The Kern County Planning and Natural Resources Department *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* requires a dispersion modeling analysis of the maximum 24-hour average concentrations of PM₁₀ and PM_{2.5} resulting from construction in comparison to applicable ambient air quality standards and thresholds; therefore, an AAQA was performed for the project during construction only, as operation of the project would be minimal, consisting of routine inspection and maintenance only. The purpose of the AAQA is to determine whether the project's construction emissions would cause or contribute to exceedances of any NAAQS or CAAQS during construction. The AAQA was performed using a two-step process to determine impacts. Dispersion modeling assumptions and results are provided in Appendix B of this EIR.

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 project to result in localized CO impacts at intersections resulting from addition of its traffic volumes is assessed based on Kern County's suggested criteria, which recommends performing a localized CO impact analysis for intersections operating at or below level of service (LOS) E.

Visibility Impacts

Kern County guidance states that potential impacts to visibility should be evaluated for all industrial projects and any other projects, such as mining projects, that have components that could generate dust or emissions related to visibility.

Based on the Kern County guidelines, a visibility analysis was completed since the project is a large industrial stationary-source, and it may have long-term operational components that could generate substantial dust or emission plumes related to visibility.

Valley Fever Exposure

While there are no specific thresholds for the evaluation of potential Valley Fever exposure, the potential for Valley Fever exposure as a result of the project is evaluated based on the anticipated earth-moving activities, and considers applicant-proposed measures and compliance with Rule 8021, Section 6.3, which requires development and implementation of a dust control plan to help control the release of the CI fungus during construction activities.

Asbestos

There are no quantitative thresholds related to receptor exposure to asbestos.

COVID-19

There are no definitive quantitative thresholds related to receptor exposure to COVID-19 and the relationship of exposure to PM_{2.5}.

Thresholds of Significance

The Kern County Planning and Natural Resources Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* are intended to assist with the preparation of the air quality assessments that serve as technical documents in EIRs prepared by the Department. The *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* requires construction and operational emissions comparisons with the adopted Kern County CEQA Environmental Checklist thresholds and the SJVAPCD thresholds, provided in **Table 4.2-3, Air Quality Thresholds of Significance – Criteria Pollutants**.

The SJVAPCD has adopted guidelines for implementing CEQA. Those guidelines contain air quality significance criteria that are applied during CEQA review of projects for which SJVAPCD is the lead agency. However, Kern County is the CEQA lead agency for the proposed project and will make the determination as to whether or not the proposed project may have a significant effect on the environment. Kern County's determination will take into consideration SJVAPCD's criteria but will ultimately be based upon the thresholds adopted by Kern County.

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact on air quality if it would:

- a. Conflict with or obstruct implementation of the applicable air quality plan;
- b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. Specifically, would implementation of the project (in a specific location) exceed any of the following adopted thresholds:
 - iii. SJVAPCD
 - Operational and Area Sources:
 - ROG: 10 tons per year
 - NO_x: 10 tons per year
 - PM₁₀: 15 tons per year
 - Stationary Sources as Determined by District Rules
 - Severe Nonattainment: 25 tons per year
 - Extreme Nonattainment: 10 tons per year
- 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.

San Joaquin Valley Air Pollution Control District

The SJVAPCD adopted thresholds of significance in the 2015 GAMAQI (SJVAPCD 2015a). Section 8.4.2 of the GAMAQI provides that project-related impacts on air quality may be significant when on-site emission increases from construction activities or operational activities exceed the 100 pounds per day screening level of any criteria pollutant after implementation of all enforceable mitigation measures. Under such circumstances, the SJVAPCD recommends that an AAQA be performed to determine if emission increases from a project will cause or contribute to a violation of the ambient air quality standards based on the significance thresholds as follows:

- Construction and Operational (permitted and non-permitted equipment and activities) Emissions;
 - 10 tons per year for ROG
 - 10 tons per year for NO_x
 - 100 tons per year for CO
 - 27 tons per year for SO_x
 - 15 tons per year for PM₁₀
 - 15 tons per year for PM_{2.5}

The SJVAPCD 2015 GAMAQI provides thresholds for analysis of health risk impacts from project operation, both permitted and non-permitted sources combined. The following are the significance thresholds for TACs:

- Carcinogens: Maximally exposed individual risk equals or exceeds 20 in one million
- Non-Carcinogens, Acute: Hazard Index equals or exceeds 1 for the maximally exposed individual
- Non-Carcinogens, Chronic: Hazard Index equals or exceeds 1 for the maximally exposed individual

Project Impacts and Mitigation Measures

Impact 4.2-1: The project would conflict with or obstruct implementation of applicable air quality plans.

In general, a project would not interfere with the applicable air quality plan if it is consistent with growth assumptions used to form the applicable air quality plan and if the project implements all reasonably available and feasible air quality control measures. The consistency with the Air Quality Management Plan (AQMP) is discussed below for project construction and operation.

Air quality impacts are controlled through policies and provisions of the SJVAPCD, the *Kern County General Plan*, and the Kern County Code of Building Regulations. The CCAA requires APCDs with severe or extreme air quality problems to provide for a 5% reduction in nonattainment emissions per year. The Attainment Plans prepared for the SJVAPCD comply with this requirement. CARB reviewers approve or amend the document and forward the plan to USEPA for final review and approval within the SIP.

Implementation of the project would generate both temporary (construction) and long-term (operational) emissions, which could conflict with or obstruct with an applicable AQMP. Project impacts would be potentially significant before mitigation.

Required Evaluation Guidelines

The State CEQA Guidelines and the CAA (Sections 176 and 316) contain specific references regarding the need to evaluate consistencies between the project and the applicable air quality plan(s). To accomplish this, the CARB has developed a three-step approach to determine project conformity with the applicable air quality plan:

1. **Determination that an air quality plan is being implemented in the area where the project is being proposed.** The SJVAPCD has adopted several attainment plans for particulate matter and ozone that apply to the project area (see Section 4.2.3, *Regulatory Setting*).
2. **The project must be consistent with the growth assumptions of the AQMP.** The Kern COG growth modelling for the 2018 RTP/SCS provides for future employment/population factors. The project would not introduce land uses that would generate vehicle trips or promote growth in the project area beyond what is projected in the *Kern County General Plan*.
3. **The project must contain in its design all reasonably available and feasible air quality control measures.** The project incorporates various policy and rule-required implementation measures that would reduce related emissions.

Because implementation of the project would not result in additional growth beyond what was anticipated by the *Kern County General Plan* and incorporated into the AQMP, conclusions may be drawn from the following criteria:

- The findings of the analysis conducted using Traffic Analysis Zones (TAZs) show that sufficient employment increase is planned for the project area such that any new employment opportunities afforded by the project were included in the growth assumptions used to develop the AQMP.
- The primary source of emissions from the project would be from construction and operation of vehicles that are licensed through the State and whose emissions are already incorporated into CARB's emissions inventory.

Short-Term Emissions

Project construction activities would result in short-term construction emissions. Exhaust emissions would be generated from activities involving the use of construction equipment/vehicles and worker vehicles. Fugitive dust emissions would be generated from grading, excavating, filling, and other construction activities. Construction activities associated with the composting and bioenergy facility are anticipated to commence in 2021, or as soon as the environmental review process is completed, and all permits necessary to construct and operate the facilities are obtained. The landfill facility involves modifications to accepted waste streams; no construction activities are proposed.

As described in Chapter 3, *Project Description*, construction of the composting facility would be conducted in phases, with Phase 1 occurring in 2021, Phase 2 occurring in 2025, and Phase 3 occurring in 2030. Each phase would take approximately 30 to 60 days to complete and would become operational once approvals have been obtained. Construction activities associated with the bioenergy facility would take approximately 11 months to complete. It is possible that construction activities associated with the bioenergy facility and Phase 1 of the composting facility would overlap.

As provided in **Table 4.2-6, Annual Construction Emissions for Composting and Bioenergy Facilities**, construction emissions have been estimated for the proposed composting and bioenergy facilities. Construction emissions were not estimated for the landfill facility since construction activities are not proposed at this facility. As provided in Table 4.2-6, individual and combined emissions would not exceed SJVAPCD thresholds of significance.

Table 4.2-6 Annual Construction Emissions for Composting and Bioenergy Facilities

Source	Criteria Pollutant (TPY)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Composting Facility	0.17	0.57	4.71	0.01	2.1	0.43
Bioenergy Facility	0.5	4.1	3.5	0.01	4.6	0.8
Total	0.67	4.67	8.21	0.02	6.7	1.23
SJVAPCD Threshold	10	10	100	27	15	15
Exceed threshold?	No	No	No	No	No	No

Source: Yorke Engineering 2020

The Kern County area and the San Joaquin Valley are designated nonattainment for PM_{2.5} for both Federal and State standards and nonattainment for PM₁₀ for State standards.

Per Mitigation Measure MM 4.2-1 (COM, BEF, LDF), the project would be subject to all applicable Federal and State air pollution control laws and regulations, and with applicable rules and regulations of the SJVAPCD. Additionally, the project would require implementation of a dust control plan to control fugitive dust emissions. Mitigation Measures MM 4.2-2 (COM, BEF) and MM 4.2-3 (COM, BEF) would ensure compliance with these fugitive dust prohibitions and require implementation of the dust control plan and fugitive dust control measures. Mitigation Measure MM 4.2-4 (COM, BEF) has also been identified, which requires

development and approval of a grading plan to reduce fugitive dust emissions. Additionally, the project would be subject to all applicable SJVAPCD regulations and rules aimed at reducing particulate matter emissions (as described above in Section 4.2.3, *Regulatory Setting*).

Additionally, Rule 9510 (as described above in Section 4.2.3, *Regulatory Setting*) states that development projects with emissions above 2 tons per year of NO_x and/or PM₁₀ are subject to the mitigation requirements of the rule. Rule 9510 allows these reductions to be accomplished through project design changes, such as using a higher insulation value in construction that could result in no additional costs for fees to the SJVAPCD. The proposed project would be required to adhere to any determination of this rule by SJVAPCD.

Vehicles used during construction of the project would emit various criteria pollutants. To reduce the potential for significant air quality impacts, the project would also be required to implement Mitigation Measure MM 4.2-5 (COM, BEF), which includes a suite of emission reduction controls.

Based on these considerations, the proposed project does not have the potential to result in a significant net increase of any criteria pollutant for which the project region is nonattainment under an applicable Federal or State ambient air quality standard, and impacts would be less than significant with mitigation.

Long-Term Emissions

Long-term emissions associated with the proposed facilities are caused by mobile sources (vehicle emissions) and operation of the bioenergy facility, composting facility, and landfill. Long-term emissions include permitted and non-permitted sources. Permitted sources include stationary emissions sources associated with the proposed project (e.g., emergency generator, landfill flare, or thermal oxidizer) and are subject to permitting requirements from the SJVAPCD). Non-permitted sources include mobile sources, such as vehicle trips for workers, feedstock deliveries, and product distribution.

With respect to SJVAPCD permitting, the landfill, compost area, and bioenergy facility have been determined to each be separate stationary sources by the SJVAPCD. Authority to Construct (ATC) applications were filed by the project proponents as follows:

- Lost Hills Environmental, LLC filed an application for a modification to the existing landfill permit (Facility ID S-7754) in September 2019. A “Notice of Complete Application” was issued by the SJVAPCD on November 13, 2019;
- Lost Hills Environmental, LLC filed an ATC application for Phase 1 of the Composting Operation in September 2019. A “Notice of Complete Application” was issued by the SJVAPCD on November 18, 2019. This notice indicated that VOC Emission Reduction Credits (ERCs) would be required in order to issue the permit for this facility; and
- Aries-Holloway Bioenergy, LLC filed an ATC application for the bioenergy facility in July 2019. After some initial questioning, the SJVAPCD agreed that the bioenergy

facility would be permitted separately. An email from Richard Edgehill of the SJVAPCD dated March 3, 2020, in reference to the bioenergy facility indicated: “We have determined that the landfill and renewable energy generation facility are not under common control and therefore are separate stationary sources.”

With respect to permitted sources of emissions, the composting and landfill facilities would each generate VOC emissions, and the bioenergy facility would generate NO_x emissions in excess of the annual and daily SJVAPCD thresholds of significance, as provided in **Table 4.2-7, Project Emissions Compared to Annual CEQA Emissions Thresholds**. The compost area daily VOC emissions would exceed the SJVAPCD thresholds of significance, as shown in **Table 4.2-8, Project Emissions Compared to Daily CEQA Emissions Thresholds**. With respect to non-permitted sources of emissions, the composting facility would generate NO_x emissions in excess of the annual SJVAPCD thresholds of significance, NO_x and CO emissions in excess of the daily SJVAPCD thresholds of significance, and NO_x in excess of the annual SJVAPCD thresholds of significance, as provided in **Tables 4.2-7 and 4.2-8**. These emissions over the thresholds are estimated to occur during Phase 3 of the compost operations. All other criteria pollutant emissions would not exceed the respective SJVAPCD thresholds of significance.

Table 4.2-7 Project Emissions Compared to Annual CEQA Emissions Thresholds

Category	Source	Criteria Pollutant (TPY)					
		NO _x	VOC	CO	SO _x	PM ₁₀	PM _{2.5}
Permitted	Landfill Facility	4.7	15.6	1.5	0.2	1.6	1.6
	Threshold	10	10	100	27	15	15
	Exceed threshold?	No	Yes	No	No	No	No
	Composting Facility	0	199.5	0	0	0.04	0.04
	Threshold	10	10	100	27	15	15
	Exceed threshold?	No	Yes	No	No	No	No
	Bioenergy Facility	13.3	0.2	1.9	17.1	3.3	3.2
	Threshold	10	10	100	27	15	15
	Exceed threshold?	YES	No	No	No	No	No
	Total Project Emissions	18.0	215.3	3.4	17.3	4.9	4.8
Threshold	10	10	100	27	15	15	
Exceed threshold?	YES	Yes	No	No	No	No	
Non-Permitted	Landfill (No Change)	0	0	0	0	0	0
	Composting Facility	20.4 ¹	1.6	27.6	0.09	14.4	2.3
	Threshold	10	10	100	27	15	15
	Exceed threshold?	Yes	No	No	No	No	No
	Bioenergy Facility	3.2	0.1	1.2	0.02	4.1	0.8
	Threshold	10	10	100	27	15	15
	Exceed threshold?	No	No	No	No	No	No
	Total Project Emissions	23.6	1.7	28.8	0.11	18.5	3.1
Threshold	10	10	100	27	15	15	
Exceed threshold?	Yes	No	No	No	Yes	No	

¹ Emissions will exceed SJVAPCD threshold during operation of all three phases of the composting facility.
Source: Emissions data from Yorke Engineering 2020

Table 4.2-8 Project Emissions Compared to Daily CEQA Emissions Thresholds

Category	Source	Criteria Pollutant (lb/day)					
		NO _x	VOC	CO	SO _x	PM ₁₀	PM _{2.5}
Permitted	Landfill	25.9	85.5	8	1.2	8.6	8.6
	SJVAPCD Threshold	100	100	100	100	100	100
	Exceed threshold?	No	No	No	No	No	No
	Compost	0	1093	0	0	0.2	0.03
	SJVAPCD Threshold	100	100	100	100	100	100
	Exceed threshold?	No	Yes ¹	No	No	No	No
	Bioenergy	81.5	5.4	77.9	93.97	18.4	18.2
	SJVAPCD Threshold	100	100	100	100	100	100
	Exceed threshold?	No	No	No	No	No	No
	Total Project Emissions	107.4	1183.9	85.9	95.2	27.2	26.8
	SJVAPCD Threshold	100	100	100	100	100	100
	Exceed threshold?	Yes	Yes	No	No	No	No
Non-Permitted	Landfill (No Change)	0	0	0	0	0	0
	Compost	111.8	8.7	150.8	0.08	78.8	12.6
	SJVAPCD Threshold	100	100	100	100	100	100
	Exceed threshold?	Yes	No	Yes	No	No	No
	Bioenergy	0.07	0	0.03	0	10.7	1.08
	SJVAPCD Threshold	100	100	100	100	100	100
	Exceed threshold?	No	No	No	No	No	No
	Total Project Emissions	111.9	8.7	150.8	0.1	89.5	13.7
	SJVAPCD Threshold	100	100	100	100	100	100
	Exceed threshold?	Yes	No	Yes	No	No	No

¹ Emissions will exceed SJVAPCD threshold upon construction of all three phases of the composting facility.
Source: Yorke Engineering 2020

As identified in **Tables 4.2-7 and 4.2-8**, the proposed project's combined permitted facilities would generate NO_x and VOCs in excess of the respective SJVAPCD threshold of significance. As a result, NO_x and VOC emissions could be considered a potentially significant impact. However, Mitigation Measure MM 4.2-6 (COM, BEF) has been identified to require the project proponent to enter into a Developer Mitigation Contract (DMC) with the SJVAPCD to require the reduction of VOC and NO_x emissions. Additionally, the project has been designed to require the composting facility to include a biofilter layer, which would reduce VOC emissions by at least 81%. Finally, Mitigation Measure MM 4.2-7 (LDF) has been identified to require the installation of a landfill gas collection system with 75% collection efficiency to route gases/vapors to a flare (i.e., the gases/vapors would be combusted) to reduce VOCs and other gases such as methane. With implementation of Mitigation Measure MM 4.2-7 (LDF) and incorporation of the project design features, the proposed project would not exceed the SJVAPCD threshold of significance for VOCs or NO_x emissions.

As identified in **Table 4.2-8, *Project Emissions Compared to Daily CEQA Emissions Thresholds***, the composting facility's non-permitted sources (i.e., vehicles) would generate CO and NO_x in excess of the respective SJVAPCD thresholds of significance. Additionally, as identified in **Table 4.2-8**, the project would generate annual PM₁₀ emissions in excess of the respective threshold of significance. These emissions would be over the non-permitted thresholds once Phase 3 of the composting area is constructed. As a result, CO, NO_x, and PM₁₀ emissions are considered a potentially significant impact. However, Mitigation Measure MM 4.2-6 (COM, BEF) has been identified to require the project proponent to enter into a DMC with the SJVAPCD to require the reduction of NO_x, CO, and PM₁₀ emissions to a net equivalent of zero. The project proponent/operator of the bioenergy facility and the project proponent/operator of the composting facility may enter into separate DMCs for each respective project component. With implementation of Mitigation Measure MM 4.2-6 (COM, BEF), the proposed project would have a less-than-significant impact related to NO_x, CO, and PM₁₀ emissions.

Ambient Air Quality Analysis

Because permitted source emissions exceeded at least one SJVAPCD threshold of significance, an AAQA was performed to determine whether criteria pollutant emissions resulting from the proposed project would cause or contribute significantly to a violation of NAAQS or CAAQS. The SJVAPCD does not require the consideration of VOCs for a single project; thus, this criteria pollutant was not assessed in the AAQA. The AAQA modeling results for the applicable criterial pollutants presented in **Table 4.2-9, *AAQA Modeling Results from Combined Project Facilities***, show that the combined project components would not cause an exceedance of the NO₂, SO₂, or CO NAAQS or CAAQS. As a result, the proposed project's potential to result in a cumulatively considerable net increase of NO₂, SO₂, or CO emissions would be less than significant.

Since background PM₁₀ concentrations are greater than the 24-hour and annual CAAQS and background PM_{2.5} concentrations are greater than the NAAQS and CAAQS, the modeled concentrations for these pollutants were compared against the SILs as defined by the SJVAPCD rather than the NAAQS and CAAQS. **Table 4.2-10, *PM₁₀ and PM_{2.5} SIL Modeling Results from Combined Project Facilities***, shows that the model-predicted PM₁₀ and PM_{2.5} concentrations from all on-site exhaust sources from the combined facilities are less than the 24-hour and annual SILs. However, some of the PM₁₀ and PM_{2.5} concentrations from the on-site fugitive dust sources were over the respective SILs.

Although emissions from the on-site fugitive dust sources from the combined facilities have the potential to cause model-predicted concentrations to be greater than the PM₁₀ and PM_{2.5} fugitive dust SILs, these concentrations decrease rapidly with distance from the emission sources. Modeled PM₁₀ and PM_{2.5} concentrations over the SILs were found to occur close to the facility in an area that is uninhabited, unoccupied by workers, and covered by desert scrub, with the majority of the predicted impact coming from the unpaved road dust from the equipment and truck travel.

Due to the predicted PM₁₀ and PM_{2.5} SIL exceedances occurring in a location that the public is unlikely to access, the combined facilities are not likely to contribute substantially to an

existing air quality violation. Therefore, the combined facilities would not cause a violation of the PM₁₀ and PM_{2.5} NAAQS or CAAQS, and impacts would be less than significant.

Table 4.2-9 AAQA Modeling Results from Combined Project Facilities

Pollutant	Averaging Time	Standard	Modeled Concentration (µg/m ³)	Background Concentration (µg/m ³)	Modeled + Background Concentration (µg/m ³)	AAQS (µg/m ³)	Exceed Standard?
NO ₂	1-Hour	Federal	72.7	72.1	144.8	188	No
		California	72.7	91.5	164.2	339	No
	Annual	Federal	4.3	17.2	21.5	100	No
		California	4.3	17.2	21.5	57	No
CO	1-Hour	Federal	738.1	2,155	2,893	40,000	No
		California	738.1	2,155	2,893	23,000	No
	8-Hour	Federal	303.8	1,398	1,701	10,000	No
		California	303.8	1,398	1,701	10,000	No
SO ₂	1-Hour	Federal	1.5	28.8	30.2	196	No
		California	1.5	28.8	30.2	655	No
	3-Hour	Federal	0.7	16.8	17.5	1,300	No
	24-Hour	California	0.3	6.	6.7	105	No
PM ₁₀ ¹	24-Hour	Federal	34.7	138	172.7	150	--
	24-Hour	California	--	143.6	--	50	--
	Annual	California	--	58.8	--	35	--
PM _{2.5} ¹	24-Hour	Federal	--	18.3	--	12	--
	Annual	California	--	16.6	--	12	--

¹ Emission concentrations for PM₁₀ and PM_{2.5} were compared against the SILs as defined by the SJVAPCD rather than the NAAQS and CAAQS because backgrounds concentrations exceeded their respective ambient air quality standards.
Source: Yorke Engineering 2020

Table 4.2-10 PM₁₀ and PM_{2.5} SIL Modeling Results from Combined Project Facilities

Pollutant	Averaging Time	Modeled Concentration (µg/m ³)	SIL (µg/m ³)	Exceed SIL?
PM ₁₀	24-Hour	0.70	5.0	No
	Annual	0.23	1.0	No
PM _{2.5}	24-Hour	0.68	1.2	Yes ¹
	Annual	.21	0.2	Yes ¹
Fugitive PM ₁₀	24-Hour	34.26	10.4	Yes ¹
	Annual	9.51	2.08	Yes ¹
Fugitive PM _{2.5}	24-Hour	3.43	2.5	Yes ¹
	Annual	0.63	0.63	Yes ¹

¹ Exceedances of the SIL only occurred in a limited area close to the facility fence line where the public is unlikely to access.
Source: Yorke Engineering 2020

Impact Summary by Project Component

Landfill Facility

Construction

Project activities associated with the landfill facility involve modifications to accepted waste streams. No construction would occur. As such, construction activities would not conflict with or obstruct implementation of applicable air quality plans and would have no impact on criteria pollutants designated as nonattainment within the SJVAPCD.

Operation

Operation of the landfill facility would generate emissions of criteria pollutants. The landfill would generate VOCs in quantities that exceed respective SJVAPCD thresholds of significance, resulting in a potentially significant impact. However, Mitigation Measure MM 4.2-7 (LDF) has been identified, which would require installation of a landfill gas collection system with 75% collection efficiency to route gases/vapors to a flare (i.e., the gases/vapors would be combusted) to reduce VOCs and other gases such as methane. This would ensure that operation activities do not conflict with or obstruct implementation of applicable air quality plans or result in emissions of criteria pollutants quantities that would exceed SJVAPCD thresholds of significance. Therefore, impacts would be less than significant with mitigation.

eASP Composting Facility

Construction

Construction of the landfill would result in emissions of criteria pollutants associated with non-permitted sources (i.e., vehicle emissions). Construction activities would be subject to SJVAPCD Regulation VIII, Fugitive Dust Prohibitions, and Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), and MM 4.2-4 (COM, BEF) would be implemented. Additionally, as described above, the project would be subject to all applicable SJVAPCD regulations and rules aimed at reducing particulate matter emissions. Implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), and MM 4.2-4 (COM, BEF) and compliance with applicable rules and regulations would ensure that the project would not conflict with or obstruct implementation of adopted applicable air quality plans or result in emissions of criteria pollutant emissions in excess of SJVAPCD thresholds of significance, and impacts would be less than significant with mitigation.

Operation

Operation of the composting facility would generate VOCs and NO_x in excess of the respective SJVAPCD thresholds of significance. Additionally, when combined with emissions from the landfill and bioenergy facility, the composting facility would generate PM₁₀ in excess of the respective SJVAPCD threshold of significance. However, Mitigation Measure MM 4.2-6

(COM, BEF) would be implemented to reduce potentially significant impacts to less-than-significant levels.

TAZs are basic spatial units of analysis facilitating the ability of transportation planners to forecast changes in commuting patterns, trip volumes, and modes of travel, and to develop plans to meet the changing demands for transportation facilities and capacities. There would be no measurable changes in traffic associated with development of the composting facility. The project area is considered generally rural and agricultural, and the nearest community is approximately 4.3 miles away. There are no intersections or roadways identified as LOS E or worse associated with the project, as discussed further in Section 4.15, *Transportation and Traffic*, of this EIR. Additionally, there would be no signalization or channelization added to an intersection, as part of this project. Therefore, the project would have a less-than-significant impact on the Kern County TAZ.

The growth represented by the project in the form of additional workers is negligible compared to the population growth anticipated by the Kern COG 2018 RTP/SCS, and the project incorporates all reasonably available and feasible air quality control measures; the project can therefore be determined in conformity with the AQMP.

Since the project is consistent with the 2018 RTP/SCS, and 2018 RTP/SCS projections are incorporated into the SIP, the project is also consistent with the SIP.

For the reasons described above, operation of the composting facility would not conflict with or obstruct implementation of adopted applicable air quality plans. Implementation of Mitigation Measure MM 4.2-6 (COM, BEF) would ensure criteria pollutant emissions do not exceed SJVAPCD thresholds of significance, and impacts would be less than significant with mitigation.

Bioenergy Facility

Construction

Construction of the bioenergy facility would result in similar emissions as those previously described for the composting facility. As such, the project would implement Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), and MM 4.2-4 (COM, BEF) and comply with applicable rules and regulations to reduce fugitive dust and particulate matter emissions. Therefore, construction of the bioenergy facility would not conflict with or obstruct implementation of adopted applicable air quality plans or result in emissions of criteria pollutant emissions in excess of SJVAPCD thresholds of significant, and impacts would be less than significant with mitigation.

Operation

Operation of the bioenergy facility would not result in criteria pollutant emissions in excess of SJVAPCD standards. Additionally, operation of the bioenergy facility would result in similar impacts on the Kern County TAZ, 2018 RTP/SCS, and SIP as described previously for the composting facility. Therefore, the bioenergy facility would not conflict with or obstruct

implementation of adopted applicable air quality plans, and impacts would be less than significant.

Mitigation Measures

MM 4.2-1 (COM, BEF, LDF). The project is required to comply with applicable Federal and State air pollution control laws and regulations, and with applicable rules and regulations of the San Joaquin Valley Air Pollution Control District during construction and operations.

MM 4.2-2 (COM, BEF) Fugitive Dust Control Plan. Prior to issuance of a grading permit, the project proponent shall submit a Fugitive Dust Control Plan to the San Joaquin Valley Air Pollution Control District for review and approval. The Fugitive Dust Control Plan shall reduce PM₁₀ and PM_{2.5} emissions during construction. The Fugitive Dust Control Plan shall include:

- a. Name(s), address(es), and phone number(s) of person(s) responsible for the preparation, submission, and implementation of the plan.
- b. Description and location of operation(s).
- c. Listing of all fugitive dust emissions sources included in the operation.
- d. All measures (in addition to those measures required by the San Joaquin Valley Air Pollution Control District) being undertaken during construction activities and operational activities to ensure fugitive dust being blown off-site is minimized. Measures may include, but are not limited to:
 1. Use of water trucks as required for the expected level of winds in the area.
 2. Use of dust suppressant (i.e., soil binders or mulch).
 3. Construction of dust screening in appropriate locations around the project site (i.e., fence slats or mesh screening).
 4. A copy of the approved Site-Specific Dust Control Plan shall be kept at the on-site construction office, and all measures included in the Site-Specific Dust Control Plan shall be included on all Grading Plans issued for the project by the Kern County Public Works Department.

MM 4.2-3 (COM, BEF) Fugitive Dust Control Measures. The project proponent shall ensure construction and operation of the project shall be conducted in compliance with all applicable rules and regulations set forth by the San Joaquin Valley Air Pollution Control District. Dust control measures outlined below shall be implemented where they are applicable and feasible. The list

shall not be considered all-inclusive and any other measures to reduce fugitive dust emissions may be required by appropriate agencies to respond to urgent issues on-site:

- a. **Land Preparation, Excavation, and/or Demolition.** The following dust control measures shall be implemented:
 1. All soil being actively excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soil areas. Watering shall take place a minimum of three times daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust suppressant.
 2. After active construction activities, soil shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil-stabilizing methods.
 3. All unpaved construction and operation/maintenance site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent.
 4. All clearing, grading, earth-moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour (averaged over 1 hour), or when dust plumes of 20% or greater opacity impact public roads, occupied structures, or neighboring property or as identified in a plan approved by the San Joaquin Valley Air Pollution Control District.
 5. All trucks entering or leaving the site will cover all loads of soils, sands, and other loose materials, or be thoroughly wetted with a minimum freeboard height of 6 inches.
 6. Areas disturbed by clearing, earth-moving, or excavation activities shall be minimized at all times.
 7. Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.
 8. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered or shall be treated with appropriate dust suppressant compounds.
 9. Prior to construction, wind breaks (such as chain-link fencing including a wind barrier) shall be installed where appropriate.

10. Where acceptable to the Kern County Fire Department, weed control shall be accomplished by mowing instead of disking, thereby, leaving the ground undisturbed and with a mulch covering.
 11. The project operator shall use the Global Positioning System (GPS) or lasers to level posts, generally avoiding grading except when elevation changes exceed design requirements.
 12. When grading is unavoidable, it is to be phased and done with the application of approved chemical dust palliatives that stabilize the earth.
 13. Where ground is cleared, plant roots must be left in place where possible to stabilize the soil.
 14. Disturbed areas shall be revegetated as soon as possible after disturbance if area is no longer needed for mining or landfill activities.
- b. **Site Construction.** After active clearing, grading, and earth-moving activities are completed within any portion of the site, the following dust control practices shall be implemented:
1. Dust suppressant should be used on the same day or day immediately following the cessation of activity for a particular area where further activity is not planned.
 2. All internal unpaved road areas shall be treated with a dust suppressant or graveled to prevent excessive dust.
 3. The project operator shall use dust suppression measures during road surface preparation activities, including grading and compaction.
 4. Final road surfaces must be stabilized to achieve a measurable threshold friction velocity (TFV) equal to or greater than 100 centimeters per second.
 5. Wind barrier fencing or screening shall be installed, when appropriate.
- c. **Vehicular Activities.** During all phases of construction, the following vehicular control measures shall be implemented:
1. On-site vehicle speed shall be limited to 10 miles per hour on unpaved areas within the project site. Vehicles may travel up to 25 miles per hour on stabilized unpaved roads (application

of palliatives, gravel, etc. that reduces the erosion potential of the soil) as long as such speeds do not create visible dust emissions.

2. Visible speed limit signs shall be posted at main ingress point(s) on site.
3. All areas with vehicle traffic, such as the main entrance roadway to the project site, shall be graveled or treated with dust palliatives so as to prevent track-out onto public roadways.
4. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.
5. Streets adjacent to the project site shall be kept clean, and project-related accumulated silt shall be removed a minimum of once daily, or as necessary to prevent substantial off-site fugitive dust releases. The use of either dry rotary brushes (unless prior wetting) or blower devices is prohibited.
6. Access to the site shall be by means of an apron into the project site from adjoining surfaced roadways. The apron shall be surfaced or treated with dust suppressants. If site soils cling to the wheels of the vehicles, then a grizzly, wheel-washer, or other such device shall be used on the road exiting the project site, immediately prior to the pavement, to remove most of the soil material from vehicle tires.

MM 4.2-4 (COM, BEF) Phased Grading Plan. Prior to the issuance of grading or building permits, the project proponent shall provide a comprehensive Phased Grading Plan for review by the Kern County Planning and Natural Resources Department to reduce fugitive dust emissions resulting from wind erosion at the site. The Phased Grading Plan shall:

- a. Identify a comprehensive grading schedule for the entire project site that demonstrates the following:
 1. **Minimal Grading.** The extent of grading shall be minimized to the extent feasible to limit the removal of topsoil and creation of loose soils. Only in areas where drainage improvements, structural foundations (e.g. inverter/transformer pads), service roads, and leveling of severe grades need to occur will grading that removes and recompacts the

soil surface occur. Dust palliatives and water shall be immediately applied following any grading.

2. **Dust Palliatives.** Application of dust palliatives shall be applied on an as-needed basis throughout project construction to help reduce dust, especially during periods of high winds, and shall include use of: (1) an eco-safe, biodegradable, liquid copolymer shall be used to stabilize and solidify any soil; and (2) a hydro mulch mixture composed of wood fiber mulch and an Environ-Mend binder may also be applied, where real-time weather conditions dictate that additional measures are necessary.
 3. **Water Suppression.** Water trucks shall transit across the project site and construction access roads to suppress the fugitive dust from disturbed soils on roads and active working areas on a regular and as-needed basis.
- b. Identify, in addition to those measures required by the San Joaquin Valley Air Pollution Control District, all measures being undertaken during construction activities and operational activities to ensure dust being blown off-site is minimized. Measures may include, but are not limited to:
1. Increased use of water and/or use of dust suppressant.
 2. Pre-seeding and/or use of wood chips as permitted by the San Joaquin Valley Air Pollution Control District.
 3. Construction of dust screening around the project site.

MM 4.2-5 (COM, BEF) The project proponent and/or its contractors shall implement the following measures during construction of the project:

- a. All equipment shall be maintained in accordance with the manufacture's specifications.
- b. Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 10 minutes.
- c. No individual piece of construction equipment shall operate longer than 8 consecutive hours per day.
- d. Electric equipment shall be used whenever possible in lieu of diesel or gasoline-powered equipment.

- e. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce nitrogen oxide emissions.
- f. On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines.
- g. Prohibit the use of heavy equipment during first- or second-stage smog alerts and suspend all construction activities during second-stage smog alerts.
- h. Utilize existing power sources (i.e., power poles) when available. This measure would minimize the use of higher polluting gas or diesel generators.
- i. Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use to the extent feasible.
- j. Require that trucks and vehicles in loading or unloading queues have their engines turned-off when not in use, where feasible.
- k. Off-road equipment engines over 50 horsepower shall be Tier 3 certified or higher (unless Tier 3 equipment, has been determined to not be available).
- l. Provide notification to trucks and vehicles in loading or unloading queues that their engines shall be turned-off when not in use for more than 10 minutes.

MM 4.2-6 (COM, BEF) The project proponent shall enter into a Developer Mitigation Contract with the San Joaquin Valley Air Pollution Control District to reduce emissions of reactive organic gases, nitrogen oxide, and particulate matter (PM₁₀ and PM_{2.5}) to ensure that all project-related construction and operational emissions within the San Joaquin Valley Air Basin are fully offset (i.e., no net increase). Emission reductions may be achieved by use of newer, low-emission equipment, implementation of on-site or off-site mitigation, and/or the funding of off-site mitigation, through participation in the San Joaquin Valley Air Pollution Control District's off-site mitigation program.

The Developer Mitigation Contract shall be reviewed and approved by the San Joaquin Valley Air Pollution Control District prior to issuance of construction/grading permits by Kern County. The project proponent/owner shall submit to the Kern County Planning and Natural Resources Department documentation confirming compliance with the Developer Mitigation Contract, prior to issuance of final discretionary approval (e.g., approval of the grading permit). The project proponent shall report annually through the

Mitigation Monitoring and Reporting program in compliance with the Developer Mitigation Contract.

- MM 4.2-7 (LDF)** The project will install an on-site flare in accordance with all applicable regulatory requirements to combust 75% of landfill gas emissions captured by the landfill gas collection system. The on-site flare will have a destruction efficiency of 99%.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), and MM 4.2-7 (LDF), impacts would be less than significant.

Impact 4.2-2: The project would expose sensitive receptors to substantial pollutant concentrations.

Toxic Air Pollutants

The proposed project would result in the emissions of TACs. Emissions from diesel and gasoline combustion during construction and operation activities associated with the composting and bioenergy facility would emit TACs, including PM₁₀, PM_{2.5}, and VOCs. TAC emissions would also be emitted from fugitive dust generated during construction and operation activities associated with the landfill and composting facility. Operation of the landfill and composting facility would also emit VOCs, ammonia, and hydrogen sulfide as a byproduct of organic decomposition. Operation of the thermal oxidizer associated with the bioenergy facility would emit low concentrations of ammonia.

The SJVAPCD has set thresholds of significance on the results of an HRA of the TAC emissions from operations of permitted and non-permitted sources. The threshold for the maximally exposed individual is a predicted cancer risk that is less than or equal to 20 in 1 million, and acute and chronic non-cancer risk predicted to be a health prioritization score of less than 1.0 (SJVAPCD 2018).

A health risk prioritization score was calculated for the project (see Section 4.2.4). The score was based on the following criteria:

- Population density near the facility;
- Proximity of sensitive receptors to the facility;
- Receptor proximity less than 50 meters;
- Elevated receptors/complex terrain;
- Frequency of nuisance violations; and
- Presence of non-stack (fugitive) emissions.

The prioritization scores at the nearest resident and worker receptors are presented in **Table 4.2-11, *Prioritization Scores***.

Receptor	Acute	Chronic	Cancer
Resident	0.06	0.09	1.14
Business	0.12	0.19	2.28

The HRA resulted in an intermediate prioritization score. Given the intermediate score, distance to the nearest residence (approximately 2.3 miles east of the proposed project), relatively flat topography, sparsely populated setting, and lack of nuisance violations, the health risk prioritization assessment concluded that the proposed project's TAC emissions would have a less-than-significant health risk on the nearest sensitive receptor.

Valley Fever

Valley Fever is an infection caused by the fungus *Coccidioides*. *Coccidioides* spores can become airborne after contaminated soil and dust are disturbed. Construction activities associated with the composting and bioenergy facilities would include ground-disturbing activities that could increase the potential for exposure of nearby individuals and on-site construction workers to airborne spores. As a result, the potential for increased exposure and contraction of Valley Fever would be considered to have a potentially significant impact. However, implementation of Mitigation Measures MM 4.2-8 (COM, BEF, LDF) and MM 4.2-9 (COM, BEF, LDF) would reduce personnel and public exposure to potential Valley Fever-containing dust by requiring additional dust control measures and a one-time financial contribution to the Kern County Public Health Services Department aimed at furthering the understanding and public awareness of Valley Fever. With implementation of Mitigation Measures MM 4.2-8 (COM, BEF, LDF) and MM 4.2-9 (COM, BEF, LDF), potential impacts from Valley Fever-containing dust on sensitive receptors would be less than significant.

Carbon Monoxide

Localized concentrations of CO are typically associated with the idling of vehicles, particularly in highly congested areas. For this reason, the areas of primary concern are congested roadway intersections that experience high levels of vehicle traffic with degraded levels of service. Regarding potential increases in CO concentrations that could potentially exceed applicable ambient air quality standards, signalized intersections that are projected to operate at an unacceptable LOS E or F are of particular concern.

The proposed project is located on Holloway Road, approximately 2 miles north of SR-46, and access to the project sites would occur via I-5 and SR-46. Travel to the project sites is not expected to reduce the LOS to E or F or worsen an already existing LOS with a rating of E or F. According to the "Transportation Concept Report" for SR-46 published by the California Department of Transportation (Caltrans), SR-46 is currently operating at LOS B and the proposed project is not expected to result in significant traffic impacts or substantially affect

LOS (see Section 4.15, *Transportation and Traffic*). As such, the proposed project would not cause substantial increases in CO concentrations, and impacts would be less than significant.

Criteria Pollutants

Sierra Club vs. County of Fresno (December 24, 2018)

In *Sierra Club v. County of Fresno* (S219783) (*Sierra Club*) the Supreme Court held that CEQA requires EIRs to either: (1) 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 (2) explain why such an analysis is infeasible (6 Cal.5th at 1165–66). However, the Court also clarified that CEQA “does not mandate” that EIRs include “an in-depth risk assessment” that provides “a detailed comprehensive analysis . . . to evaluate and predict the dispersion of hazardous substances in the environment and the potential for exposure of human populations and to assess and quantify both the individual and population wide health risks associated with those levels of exposure” (id. at 1665). However, correlating the project’s criteria air pollutant to specific health impacts, particularly with respect to O₃, is not possible because there is no feasible or established scientific method to perform such analysis. This conclusion is supported by both the SJVAPCD and the South Coast Air Quality Management District (SCAQMD), who have determined that this type of analysis is speculative and infeasible and there are no unique issues for the SJVAPCD that would make this analysis invalid.

Writing as amicus curiae in *Sierra Club*, the SJVAPCD explained that “[t]he health impact of a particular criteria pollutant is analyzed on a regional and not a facility level based on how close the area is to complying with (attaining) the NAAQS. Accordingly, while the type of individual facility/health impact analysis that the Court of Appeal has required is a customary practice for TACs, it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task” (San Joaquin Valley Unified Air Pollution Control District [SJVUAPCD] 2015).

Instead, the SJVAPCD explained that it assesses a project’s potential to exceed NAAQS by evaluating the project’s compliance with district thresholds of significance, which are measured in mass emissions (SJVUAPCD 2015). As explained by SJVAPCD, its thresholds are based on factual, scientific data and have been set at a level that ensures that NAAQS will not be exceeded, taking into consideration all cumulative emission sources (SJVUAPCD 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” (SJVUAPCD 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” (SJVUAPCD 2015).

This inability to “accurately ascertain local increases in concentration” of mass emissions and then to further link emissions with health effects is particularly true for O₃ and its precursors—NO_x, ROG_s, and VOC_s; O₃ is not directly emitted into the air, but is instead formed as ozone

precursors that undergo complex chemical reactions through sunlight exposure (SJVAPCD 2015). Given the complex nature of this process, and the fact that O₃ can be transported by wind over long distances, “a specific tonnage amount of NO_x or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area” (SJVAPCD 2015). For this reason, the photochemical analysis for O₃ is done on a regional scale and it is inappropriate to analyze O₃ impacts at a local or project-level basis because a localized analysis would at most be speculative, and at worst be misleading. Speculative analysis is not required by CEQA (CEQA Guidelines Section 15145; *Laurel Heights Improvement Association v. Regents of the University of California 1988*).

The SJVAPCD also explained that the disconnect between the tonnage of precursor pollutants and the concentration of O₃ or particulate matter formed in a particular area is especially important to understand in considering potential health effects because it is the concentration, not the tonnage, that causes health effects (SJVAPCD 2015). The SJVAPCD explained that even if a model were developed that could accurately assess local increases in concentrations of pollutants like O₃ and particulates, it would still be “impossible, using today’s models, to correlate that increase in concentration to a specific health impact” (SJVAPCD 2015). The SJVAPCD stated that even a project with criteria pollutant emissions above its CEQA thresholds does not necessarily cause localized human health impacts as, even with relatively high levels of emissions, the SJVAPCD cannot determine “whether and to what extent emissions from an individual project directly impact human health in a particular area” (SJVAPCD 2015). The SJVAPCD explained that this is particularly true for development projects like the proposed project, where most of the criteria pollutants are derived from mobile and area sources and not stationary sources. The SCAQMD also, as amicus curiae in *Sierra Club*, made similar points, reiterating that “an agency should not be required to perform analyses that do not produce reliable or meaningful results” (SCAQMD 2015). SCAQMD agrees that it is very difficult to quantify health impacts with regard to O₃, opining that the only possible means of successfully doing so is for a project so large that emissions would essentially amount to all regional increases (SCAQMD 2015). With regard to particulate matter, the SCAQMD noted that while the CARB has created a methodology to predict expected mortality from large amounts of PM_{2.5}, the primary author of the methodology has reported that it “may yield unreliable results due to various uncertainties” and CARB staff has been directed by its governing board to reassess and improve it, which factor “also counsels against setting any hard-and-fast rule” about conducting this type of analysis (SCAQMD 2015). The amicus briefs filed by SJVAPCD and SCAQMD in *Sierra Club* are attached as part of Appendix B of this EIR.

Ambient Air Quality Standards

The USEPA and CARB have established NAAQS and CAAQS at levels above which concentrations could be harmful to human health and welfare, with an adequate margin of safety. Further, California air districts, like the SJVAPCD, have established emission-based thresholds that provide project-level estimates of criteria air pollutant quantities that air basins can accommodate without affecting the attainment dates for the NAAQS. Accordingly, elevated levels of criteria air pollutants as a result of a project’s emissions could cause adverse health effects associated with these pollutants. As noted previously, the SJVAB is a

nonattainment area for the State 1-hour O₃, 8-hour O₃, PM₁₀, and PM_{2.5} standards and is a nonattainment area for National 8-hour O₃ and PM_{2.5} standards

Project Heath Effects of Criteria Air Pollutants

A sensitive receptor can be hypothetically exposed to a substance through several different pathways. Typically, the primary environmental exposure pathway is direct inhalation of gaseous and particulate air pollutants. However, there is the potential for exposure via non-inhalation pathways due to the deposition of particulate pollutants (DPM) in the environment.

As described above in Impact 4.2-2, construction emissions would not exceed SJVAPCD thresholds. However, operational emissions from permitted sources would exceed SJVAPCD thresholds for VOC and operation emissions from non-permitted sources would exceed SJVAPCD thresholds for NO_x and CO. Thus, the nearest sensitive receptor (located approximately 2.3 miles east of the project) could potentially be exposed to substantial pollutant concentrations from the proposed project.

As previously described under Impact 4.2-1, because permitted source emissions exceeded at least one SJVAPCD threshold of significance, an AAQA was performed to determine whether criteria pollutant emissions resulting from the proposed project would cause or contribute significantly to a violation of NAAQS or CAAQS. The SJVAPCD does not require the consideration of VOCs for a single project; thus, this criteria pollutant was not assessed in the AAQA. However, VOC emissions would be mitigated per Mitigation Measures MM 4.2-1 (COM, BEF) and MM 4.2-6 (COM, BEF). The AAQA found that the project would not cause a violation of NAAQS or CAAQS. Further, as previously described under Impact 4.2-1, project design features have been incorporated into the landfill and composting facilities to reduce NO_x and CO emissions. Additionally, Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), and MM 4.2-7 (LDF) would further reduce emissions of criteria pollutants.

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. While COVID-19 is thought to spread mainly through close contact from person-to-person, the CDC is still learning how the virus spreads and the severity of the illness it causes (CDC 2020b). COVID-19 research and causality are still in the beginning stages. 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 COVID19 death in the United States (Wu et al. 2020). While construction dust suppression measures would be implemented through Mitigation Measures MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), and MM 4.2-4 (COM, BEF), exposure to dust during construction could still occur which could increase the health susceptibility and increase the severity of the disease. There is no vaccine to date for COVID-19. In addition to implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF) and MM 4.2-2 (COM, BEF) through MM 4.2-4 (COM, BEF), the project would implement Mitigation Measure MM 4.2-10 (COM, BEF, LDF), 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.

Based on the above factors, sensitive receptors would not be exposed to adverse quantities of long-term emissions, and impacts would be less than significant with mitigation.

Mitigation Measures

Implement Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), and MM 4.2-7 (LDF), in addition to the measures listed below.

MM 4.2-8 (COM, BEF, LDF) Valley Fever. Prior to ground disturbance activities, the project proponent shall implement the following Valley Fever provisions:

- a. Provide evidence to the Kern County Planning and Natural Resources Department that the project operator and/or construction manager has developed a “Valley Fever Training Handout,” training, and schedule of sessions for education to be provided to all construction personnel. All evidence of the training session materials, handout(s), and schedule shall be submitted to the Kern County Planning and Natural Resources Department within 24 hours of the first training session. Multiple training sessions may be conducted if different work crews will come to the site for different stages of construction; however, all construction personnel shall be provided training prior to beginning work. The evidence submitted to the Kern County Planning and Natural Resources Department regarding the “Valley Fever Training Handout” and session(s) shall include the following:
 1. A sign-in sheet (to include the printed employee names, signature, and date) for all employees who attended the training session.
 2. Distribution of a written flier or brochure that includes educational information regarding the health effects of exposure to criteria pollutant emissions and Valley Fever.
 3. Training on methods that may help prevent Valley Fever infection.
 4. A demonstration to employees on how to use personal protective equipment (PPE), such as respiratory equipment (masks), to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of Valley Fever. Where respirators are required, the equipment shall be readily available and shall be provided to employees for use during work. Proof that the demonstration is included in the

training shall be submitted to the county. This proof can be through printed training materials/agenda, digital video disc (DVD), digital media files, or photographs.

- b. The project proponent also shall consult with the Kern County Public Health Services Department to develop a Valley Fever Dust Management Plan that addresses the potential presence of the *Coccidioides* spore and mitigates for the potential for *Coccidioidomycosis* (Valley Fever). Prior to issuance of permits, the project operator shall submit the plan to the Kern County Public Health Services Department for review and approval. The plan shall include a program to evaluate the potential for exposure to Valley Fever from construction activities and to identify appropriate safety procedures that shall be implemented, as needed, to minimize personnel and public exposure to potential *Coccidioides* spores. Measures in the Valley Fever Dust Management Plan shall include the following:
1. Provide High-Efficiency Particulate Air (HEPA) filters for heavy equipment equipped with factory-enclosed cabs capable of accepting the filters. Require contractors utilizing applicable heavy equipment to furnish proof of worker training on proper use of applicable heavy equipment cabs, such as turning on air conditioning prior to using the equipment.
 2. Provide communication methods, such as two-way radios, for use in enclosed cabs.
 3. Require National Institute for Occupational Safety and Health (NIOSH)-approved half-face respirators equipped with minimum N-95 protection factor for use during worker collocation with surface disturbance activities, as required per the hazard assessment process.
 4. Cause employees to be medically evaluated, fit-tested, and properly trained on the use of the respirators, and implement a full respiratory protection program in accordance with the applicable California Division of Occupational Safety and Health (Cal/OSHA) Respiratory Protection Standard (8 CCR 5144).
 5. Provide separate, clean eating areas with handwashing facilities.
 6. Install equipment inspection stations at each construction equipment access/egress point. Examine construction

vehicles and equipment for excess soil material and clean, as necessary, before equipment is moved off-site.

7. Train workers to recognize the symptoms of Valley Fever, and to promptly report suspected symptoms of work-related Valley Fever to a supervisor.
8. Work with a medical professional to develop a protocol to medically evaluate employees who develop symptoms of Valley Fever.
9. Work with a medical professional, in consultation with the Kern County Public Health Services Department, to develop an educational handout for on-site workers and surrounding residents within 3 miles of the project site, and include the following information on Valley Fever: what are the potential sources/causes, what are the common symptoms, what are the options or remedies available should someone be experiencing these symptoms, and where testing for exposure is available. Prior to construction permit issuance, this handout shall have been created by the project operator and reviewed by the project operator and reviewed by Kern County. No less than 30 days prior to any work commencing, this handout shall be mailed to all existing residences within 3 miles of the project boundaries.
10. When possible, position workers upwind or crosswind when digging a trench or performing other soil-disturbing tasks.
11. Prohibit smoking at the worksite outside of designated smoking areas; designated smoking areas will be equipped with handwashing facilities.
12. Post warnings on-site and consider limiting access to visitors, especially those without adequate training and respiratory protection.

MM 4.2-9 (COM, BEF, LDF) Valley Fever Education Fees. Prior to the issuance of grading permits, a onetime fee shall be paid to the Kern County Public Health Services Department in the amount of \$3,200 for public awareness programs.

MM 4.2-10 (COM, BEF, LDF) COVID-19 Health and Safety Plan. 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 Department for review and approval.

Level of Significance after Mitigation

Even with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LF) through MM 4.2-10 (COM, BEF, LDF), the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM_{2.5} along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable project level impacts.

Impact 4.2-3: The project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The SJVAPCD has identified some common types of facilities that have been known to produce odors in the SJVAB and provided recommended distances beyond which sensitive receptors are not expected to notice significant odors. For both landfills and composting facilities, the odor-screening distance is 1 mile. The nearest sensitive receptor is a residence located approximately 2.3 miles east of the project, well beyond the SJVAPCD screening-distance threshold. Further, no odor complaints have been logged with the SJVAPCD for the existing landfill facility. Nonetheless, the proposed project (specifically the landfill and composting facility) would introduce new potential odor-causing activities. As such, project design features would be incorporated into the composting facility, which would include a biofilter layer that would reduce VOC and ammonia emissions (the primary odorous compounds) from composting activities by at least 81% and 45%, respectively. In addition, VOC emissions associated with the landfill facility would be further reduced by implementation of Mitigation Measure MM 4.2-7 (LDF), which requires installation of an existing gas collection system, with a 75% collection efficiency to route gases/vapors to a flare (i.e., the gases/vapors would be combusted). Furthermore, Mitigation Measure MM 4.2-11 (COM) has been identified to require preparation and implementation of a site-specific Odor Impact Minimization Plan (OIMP) to further reduce potential odors. Given the distance of the nearest sensitive receptor, and with incorporation of project design features and implementation of Mitigation Measure MM 4.2-11 (COM), the project is not expected to create objectionable odors affecting a substantial number of people, and impacts would be less than significant with mitigation.

Mitigation Measures

Implement Mitigation Measure MM 4.2-7 (LDF), in addition to the measure listed below.

MM 4.2-11 (COM) Odor Control Management Plan. Under California law (14 California Code of Regulations Chapter 3.1, Section 17863.4), as a commercial compost facility, the project proponent shall be required to prepare an Odor Complaint Management Plan. The plan shall include provisions necessary to reduce noxious odors generated from the proposed use. At a minimum, the Odor Complaint Management Plan shall include the following:

- a. Name and telephone number of contact person(s) at the project site responsible for logging in and responding to odor complaints.

- b. Policy and procedure describing the actions to be taken when an odor complaint is received, including the training provided to the staff on how to respond.
- c. Description of potential odor sources at the project site.
- d. Description of potential methods for reducing odors, including minimizing idling of delivery and service trucks and buses, process changes, facility modifications, and/or feasible add-on air pollution control equipment.
- e. Contingency measures to curtail emissions in the event of a public nuisance complaint.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.2-11 (COM), impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

The Kern County Planning and Natural Resources Department *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* 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. A list of projects located within a 1-mile and 6-mile radius are described below in **Table 4.2-12, Kern County Planning and Natural Resources Department Projects within 1 Mile and 6 Miles**.

As noted previously, the SJVAB is a nonattainment area for the State 1-hour O₃, 8-hour O₃, PM₁₀, and PM_{2.5} standards and is a nonattainment area for National 8-hour O₃ and PM_{2.5} standards. As previously discussed, project construction and operational emissions of these pollutants are not anticipated to violate or lead to additional violations of NAAQS and CAAQS. Consistent with the SJVAPCD GAMAQI, the project would accordingly result in a less-than-significant cumulative impact in relation to criteria air pollutants:

By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development. Future attainment of State and Federal ambient air quality standards is a function of successful implementation of the District's attainment plans. Consequently, the District's applicant of thresholds of significance for criteria pollutants is relevant to the determination of whether

a project's individual emissions would have a cumulatively significant impact on air quality.

A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program.

Thus, if project specific emissions would be less than the thresholds of significance for criteria pollutants, as a general matter the project would not be expected to result in a cumulatively considerable net increase of any criteria pollutant for which the District is in non-attainment under applicable Federal or State ambient air quality standards (SJVAPCD 2015a).

However, because of scientific uncertainty regarding the offsetting of NO_x emissions through VOC reductions, and because Kern County does not have jurisdiction and control over all potential projects in the SJVAB and, thus, cannot assure that such projects would fully offset their criteria emissions pursuant to a DMC, cumulative impacts for criteria pollutants are considered significant and unavoidable.

Impact 4.2-4: The project would result in a cumulatively considerable net increase of any criteria pollutant for which the projects' region is nonattainment under applicable federal or State ambient air quality standards.

The list of development projects within a 1- to 6-mile radius of the project that were identified by the Kern County Planning and Natural Resources Department is presented in **Table 4.2-12, Kern County Planning and Natural Resources Department Projects within 1 Mile and 6 Miles**. Most of the facilities listed in Table 4.2-12 have negligible operational emissions or are closed; thus, only the Liberty Composting Facility was considered in the cumulative analysis.

The Liberty Composting Facility is located less than 1 mile from the closest project boundary, but approximately 3.6 miles from the nearest portion of the property that will have emission-producing activities. This facility is operational and was permitted through the SJVAPCD and must meet all SJVAPCD rules developed so that permitted projects do not cause violations of the ambient air quality standards or expose sensitive receptors to substantial TAC emissions. In addition, the emissions from this facility are reflected in the background air quality data, which were used in the AAQA.

Per the Kern County Planning and Natural Resources Department guidelines, the cumulative analysis should compare project emissions to regional existing sources of air pollutants in the cumulative study area (the San Joaquin Valley portion of Kern County). **Table 4.2-13, Comparison of Combined Project Emissions and SJVAB Emissions**, presents the maximum criteria pollutant net emissions increase resulting from the combined project's permitted source emissions (adjusted for the VOC ERCs) compared to the CARB 2030 projection of the SJVAB total emissions and the Kern County portion of the SJVAB. As depicted in Table 4.2-13, the proposed project would constitute only a small fraction of basin-wide or Countywide emissions.

Table 4.2-12 Kern County Planning and Natural Resources Department Projects within 1 Mile and 6 Miles

KCPD Case ID	Project Name	Project Description	Status	Location
Within 6 Miles				
226	Bakersfield Cellular	Cellular Tower	--*	Portion of Sec. 11, CUP 3, Map 51
432	Blackwell Land Company	Labor Housing	--*	E/S Hwy 33, E. of Hwy 46, CUP 2, Map 51, Sec 6
3439	Paramount Farms, Inc.	Water System	--*	Lost Hills, CUP 27, Map 5
5737	Pacific Bell	Cellular Tower	--*	Twisselman Rd., CUP 1, Map 5
6372	L. Schamun	Cellular Tower	--*	Portion E/2 of NW/4 Sec 20, CUP 2, Map 5
6570	Nextel Communication	Cellular Tower	--*	21315 Hwy 46, Lost Hills, CUP 4, Map 52, Sec 2
7431	Nextel Communication	Cellular Tower	--*	21315 Hwy 46, Lost Hills, CUP 4, Map 52, Sec 2
10083	Paramount Farms, Inc.	Tank	--*	13646 Highway 33, CUP 8, Map 27
10867	Mobile Home	Mobile home	--*	21164 Fresno St. CUP 10, Map52, Sec 3
11136	KC E & SSG. Fenton	Drainage Sump	--*	Lost Hills, Fresno St. and Lamberton Ave.
11853	Paramount Farms, Inc.	Solar Power Project	--*	3,500 Ft E of Hwy 33, 3M N SR-33 and SR-46
Within 1 Mile				
843	Chevron USA Inc.	Surface Mining and Reclamation	Closed	PTN of Sec 29
5744	Hondo Chemical	Landfill WO #97242	Never Constructed	Sec 10 NW ¼
9956	Nextel Communication	Cellular Communications Facility	--*	Sec 32, PTN W/2
13106	H.M Holloway	Holloway Golden Gypsum Mine	Closed	Adjacent to Disposal Facility
6598	San Joaquin Composting – Liberty Composting	Modify for Transfer/Storage Biosolids	Operational	12421 Holloway Rd

Note: KCPD = Kern County Planning and Natural Resources Department

*The construction of these projects has been completed. Due to the nature of these projects, the operational emissions are expected to be negligible.

Source: Yorke Engineering 2020

Table 4.2-13 Comparison of Combined Project Emissions and SJVAB Emissions

Sources	NO _x	VOC	CO	SO _x	PM ₁₀	PM _{2.5}
Compost Facility	0.069	0.01 ¹	0.079	0.001	0.044	0.011
Bioenergy Facility	0.045	0.003 ¹	0.039	0.047	0.015	0.010
Combined Projects with ERC for Lost Hills SWMF Permitted Sources	0.114	0.003	0.118	0.048	0.059	0.021
2030 Total for Kern County in SJVAB	26.46	168.60	86.53	1.46	39.64	11.98
2030 Total for SJVAB	128.70	1,017.35	931.12	11.07	316.68	102.08
Combined Projects Total Emissions Percent of Kern County	0.43%	<0.01%	0.14%	3.29%	0.15%	0.17%
Combined Projects Total Emissions Percent of SJVAB	0.09%	<0.01%	0.01%	0.43%	0.02%	0.02%

¹ Lost Hills Compost area VOC emissions will be offset with ERCs, and hence will not add to the emissions burden in Kern County or the San Joaquin Valley.
Source: Yorke Engineering 2020

As noted in Impact 4.2-13, construction and long-term operation of the proposed project would result in increased emissions of criteria pollutants that would exceed project-level significance thresholds. The proposed project's permitted emissions sources would exceed the annual and daily SJVAPCD thresholds for VOCs. However, the project would fully mitigate VOC emissions by implementing Mitigation Measures MM 4.2-1 (COM, BEF) and MM 4.2-6 (COM, BEF) and MM 4.2-7 (LDF), which would require VOC offsets through surrendering ERC credits, a DMC with the SJVAPCD and installation of an on-site flare to combust 75% of landfill gas emissions. Additionally, the proposed project's non-permitted emission sources would also exceed the annual and daily SJVAPCD thresholds for NO_x and CO. However, these criteria pollutant emissions would be mitigated below the respective SJVAPCD thresholds by implementing Mitigation Measure MM 4.2-6 (COM, BEF), which requires the project proponent to enter into a DMC with the SJVAPCD. With implementation of Mitigation Measures MM 4.2-6 (COM, BEF) and MM 4.2-7 (LDF), the project's VOC, NO_x, and CO emissions would not exceed the respective SJVAPCD thresholds.

However, potential cumulative impacts to air quality could occur from construction and operation of the proposed project in combination with regional growth projections in the same air basin. It is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the SJVAB would be affected by the health impacts mentioned. The SJVAPCD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the SJVAB at the present time and it has not provided methodology to assess the specific correlation between mass emissions generated and the effect on public health and welfare. Therefore, cumulative impacts for criteria pollutants are considered significant and unavoidable.

Mitigation Measures

Implement Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM).

Level of Significance after Mitigation

Cumulative impacts would be significant and unavoidable during construction and operation of the project after implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM). The uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM_{2.5}, along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable cumulative level impacts.

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4.3.1 Introduction

This section of the Environmental Impact Report (EIR) describes the existing conditions of the project site (Sites A and B), provides the applicable regulatory setting for the proposed project, evaluates potential impacts resulting from the proposed project, and recommends feasible mitigation measures to reduce potential impacts associated with the proposed project, where applicable. The information in this section is based on a review of relevant literature and field reconnaissance surveys associated with the following biological studies, which were prepared by the project proponent and peer reviewed by SWCA Environmental Consultants (SWCA) before use in this EIR:

- *Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project, Kern County, California* (McCormick Biological, Inc. 2020), included in Appendix C.1 of this EIR; and
- *Results of Biological Assessment of Current Site Conditions for Phase 1 of the Lost Hills Composting and Waste to Energy Project, Lost Hills, California* (West Kern Environmental Consulting, LLC 2020), included in Appendix C.2 of this EIR.

The technical reports included a literature review of the California Natural Diversity Database (CNDDDB), U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC), USFWS Critical Habitat Portal, and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants.

The reports also summarized findings from reconnaissance-level field surveys conducted on April 5, 2018; April 11, 2019; and January 30, February 5, March 13, June 8, and June 22, 2020.

The purpose of the field surveys was to assess the presence of special-status species, as well as to document and update existing baseline biological conditions at the project sites.

4.3.2 Environmental Setting

This section discusses the existing biological resources, including the habitat types and species composition, within and adjacent to the project sites.

Regional Setting

The project sites are located along the west flank of the Lost Hills Oil Field in a rural undeveloped area of northwestern Kern County, north of State Route (SR-) 46 and

approximately 4.3 miles northwest of the community of Lost Hills. Kern County is divided into three distinct geographical regions within the Great Valley geomorphic province: the eastern third of the County is in the Mojave Desert; the middle section straddles the Southern Sierra Nevada Range and the Transverse Ranges of the Tehachapi and San Emigdio Mountains; and the western third occurs in the San Joaquin Valley, where the project sites are located. Land uses in the project vicinity include a mix of agriculture and developed and undeveloped land.

Climate

The climate in the southern San Joaquin Valley region consists of hot summer temperatures (average daily maximum near or above 90 degrees Fahrenheit [°F]) and low annual precipitation (approximately 12 inches). Daily temperature swings of 30°F can occur, with lows in the winter near freezing. Precipitation generally occurs within the winter and spring with very little occurring during the summer as a result of summer thunderstorms. Winds are generally mild to moderate from 0 to 10 miles per hour (mph) with gusts upwards of 40 mph on rare occasions. The project's elevation ranges from approximately 370 to 500 feet above mean sea level (amsl), with an average high temperature of 98°F in July to a low of 38°F in January. Average rainfall is less than 10 inches annually (Weatherspark 2019).

Wildlife

The San Joaquin Valley supports a variety of reptiles, birds, and mammals. Reptile species commonly occurring in the San Joaquin Valley portion of Kern County include the side-blotched lizard (*Uta stansburiana*), western whiptail (*Aspidoscelis tigris munda*), and gopher snake (*Pituophis melanoleucus*). Bird species common to the region include common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), house finch (*Haemorhous mexicanus*), and red-tailed hawk (*Buteo jamaicensis*). Mammal species typical of the area include California ground squirrel (*Otospermophilus beecheyi*), coyote (*Canis latrans*), black-tailed jackrabbit (*Lepus californicus*), and bat species, including Yuma myotis (*Myotis yumanensis*).

Local Setting

The project site is in the northwestern portion of Kern County, east of the Lost Hills Anticline, in the southern San Joaquin Valley. As described in Chapter 3, *Project Description*, the project site is comprised of two adjacent sites, Sites A and B, which are separated by Holloway Road. Site A is an existing Class III non-hazardous industrial waste landfill facility located at 14045 Holloway Road on the west side of Holloway Road at the G P Road junction. Existing landfill operations and the future extended Aerated Static Pile (eASP) compost facility would be sited within Site A. Site A is bounded by the existing H.M. Holloway Gypsum Mine to the north, and undeveloped land and inactive landfill areas to the west, east, and south.

Site B is an equipment staging and storage lot on the east side of Holloway Road, north of G P Road, and would be the future site of the proposed bioenergy facility. Site B is bounded by Holloway Road to the west and undeveloped land to the north, south, and east.

Vegetation and Plant Communities

Vegetation in the San Joaquin Valley region is influenced by arid climatic conditions, topography, and past land uses. This region is an elongate, north–south-oriented lowland surrounded by all other regions of the California Floristic Province but bordered mostly by coastal ranges to the west and the Sierra Nevada Mountains to the east. On all borders it ends where oak-pine woodlands or mixed hardwood forests begin.

Site A is comprised of disturbed land that lacks vegetation within the area associated with the existing landfill facility. Vegetation consisting primarily of annual grassland (*Bromus rubens*—*Schismus [arabicus, barbatus]*) and desert saltbush shrubs associated with *Atriplex polycarpa* alliance occurs outside the boundary of the existing landfill facility within Site A. Annual grassland and desert saltbush shrubs comprise approximately 91.3 and 29.5 acres of the site, respectively. These vegetated areas are recovering from previous disturbance associated with prior surface mining activities and landfill operations. The distribution of vegetation communities within Site A is shown on **Figure 4.3-1, Vegetation Communities Map**.

Site B currently serves as an equipment staging yard for the H.M. Holloway Gypsum Mine and consists entirely of disturbed land that is devoid of vegetation. Vegetated areas occur outside the site to the north, south, and west. The distribution of vegetation communities within Site B is shown on **Figure 4.3-1, Vegetation Communities Map**.

Special-Status Species

Special-status species are plants, animals, and fish species that are legally protected under the Federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), or other regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing. Special-status species include:

- Species listed or proposed for listing as threatened or endangered under the ESA (50 Code of Federal Regulations [CFR] 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the *Federal Register* [FR] [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under the ESA (69 FR 24876, May 4, 2004).
- Species listed or proposed for listing by the State of California as threatened or endangered under the CESA (14 California Code of Regulations [CCR] 670.5).
- Species that meet the definitions of rare or endangered under the California Environmental Quality Act (CEQA; State CEQA *Guidelines* Section 15380).
- Plants listed as rare under the California Native Plant Protection Act (NPPA; California Fish and Game Code [CFG] Section 1900 et seq.).

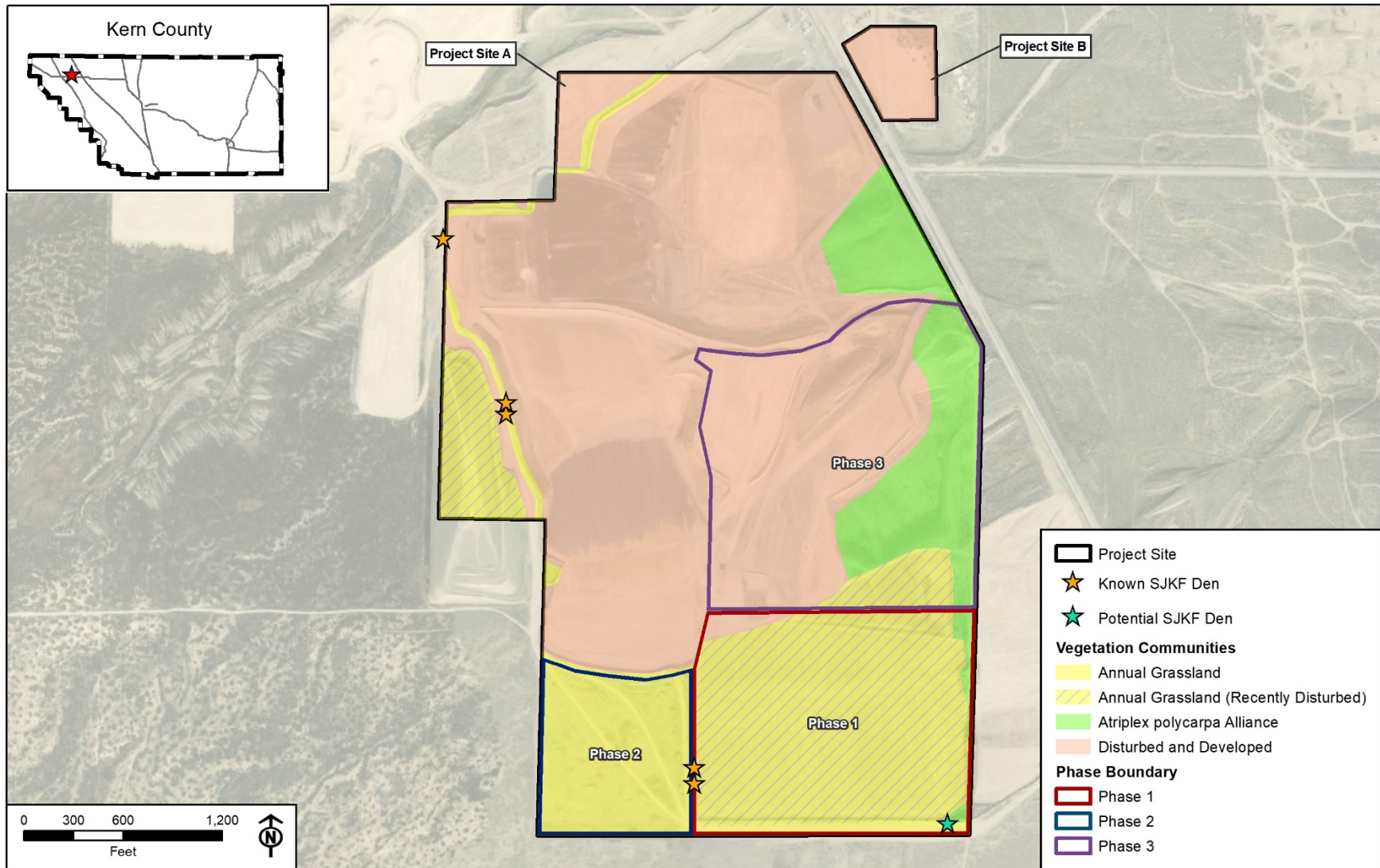


Figure 4.3-1
Vegetation Communities Map

- Plants considered by the CNPS to be “rare, threatened, or endangered in California” (California Rare Plant Rank [CRPR] 1B and 2); plants ranked by CNPS as plants about which more information is needed to determine their status, and plants of limited distribution (CRPR 3 and 4), which may be included as special-status species on the basis of local significance or recent biological information.
- Animals considered Species of Special Concern (SSC) to the California Department of Fish and Wildlife (CDFW).
- Animals fully protected in California (CFGF Sections 3511 [birds], 4700 [mammals], and 5050 [amphibians and reptiles]).

Special-Status Plants

As provided in Appendix C.1 of this EIR, the literature review and records search identified 19 special-status plants with potential to occur in the project vicinity. Of these 19 special-status plants, seven were determined to have the potential to occur within Site A based on specific site characteristics. Due to the existing disturbed and developed condition of Site B, it does not support suitable habitat for any special-status plant species. The following descriptions of special-status plant species that have the potential to occur in Site A are based on the *Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project* (McCormick Biological, Inc. 2020) included in Appendix C.1 of this EIR.

California Jewelflower

California jewelflower (*Caulanthus californicus*) is both Federally and State listed as endangered. Historically, the range of the species included the upper San Joaquin Valley and adjacent valleys from Coalinga in the northwest to the Cuyama Valley in the southwest. Of 55 historical locations, approximately 20 extant populations remain. Recently, extant populations have been found on the Carrizo Plain in San Luis Obispo County and in the Kreyenhagen Hills of Fresno County. An attempt has been made to establish an artificial population at the Paine Wildflower Preserve, Kern County; however, this population has not been successful. Flowers typically appear from February to May.

The nearest CNDDDB occurrences (CNDDDB Occs. 15 and 16) of California jewelflower are approximately 4.8 miles southeast and 5.9 miles west of the project sites, respectively. Based on a literature review, these occurrences are thought to be extirpated. This species is not generally tolerant of high levels of disturbance. California jewelflower was not detected during the reconnaissance-level field surveys conducted within the project sites and associated 250-foot buffer during the appropriate blooming period. Although initial surveys were conducted at an appropriate time to detect this species, they were reconnaissance level surveys and complete coverage of Site A was not conducted. Based on current conditions, this species is not expected to occur within the active landfill footprint and is very unlikely on the overburden areas that have revegetated. Based on a high level of historic disturbance and manipulation of soils, these revegetated overburden areas outside of the active landfill footprint have a low potential to support this species. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is no potential for this species to occur within Site B.

Kern Mallow

Kern mallow (*Eremalche parryi* ssp. *kernensis*) is Federally listed as endangered and typically occurs on alkali flats and eroded hillsides of the southern San Joaquin Valley. Historically, populations of this species were thought to be restricted to a small area within the Lokern area, which is approximately 20 miles southwest of the project. However, based on recent studies, the range is now considered to include populations from the Lokern area, several additional western Kern County locations, and populations that have been verified based on herbarium collections in San Luis Obispo, Santa Barbara, Ventura, and Tulare Counties (USFWS 2013a). Flowers typically appear from March to June.

The nearest CNDDDB occurrence (CNDDDB Occ. 4) of Kern mallow is approximately 4.3 miles northeast of the project sites. Kern mallow was not detected during the reconnaissance-level field surveys conducted within the project sites and associated 250-foot buffer during the appropriate blooming period. Although initial surveys were conducted at an appropriate time to detect this species, they were reconnaissance-level surveys and complete coverage of Site A was not conducted. Based on current conditions, this species is not expected to occur within the active landfill footprint and is very unlikely on the overburden areas that have revegetated. Based on a high level of historic disturbance and manipulation of soils, these revegetated overburden areas outside of the active landfill footprint have a low potential to support this species. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is no potential for this species to occur within Site B.

San Joaquin Woollythreads

San Joaquin woollythreads (*Monolopia congdonii*) is Federally listed as endangered and is found in valley grassland habitat types with silty sand or sandy loam soils at elevations ranging from 400 to 1,200 feet amsl. Valley saltbush is often the dominant shrub in these habitat types. The preferred microhabitat for this species consists of areas with reduced annual grass competition. It is generally not found where annual grasses are extremely dense and tall (Taylor 1989). This species is somewhat prostrate, allowing it to persist under grazing pressure. Known extant populations in Kern County occur along the Kern River near I-5, near Lost Hills, and on the Belridge Plain (USFWS 1998). Flowers typically appear in late February or March.

The nearest CNDDDB occurrence (CNDDDB Occ. 35) of San Joaquin woollythreads is approximately 5.5 miles southeast of the project sites. San Joaquin woollythreads was not detected during the reconnaissance-level field surveys conducted within the project sites and associated 250-foot buffer during the appropriate blooming period. Although initial surveys were conducted at an appropriate time to detect this species, they were reconnaissance-level surveys and complete coverage of Site A was not conducted. Based on current conditions, this species is not expected to occur within the active landfill footprint and is very unlikely on the overburden areas that have revegetated. Based on a high level of historic disturbance and manipulation of soils, these revegetated overburden areas outside of the active landfill footprint have a low potential to support this species. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is no potential for this species to occur within Site B.

Lost Hills Crownscale and Crownscale

Two varieties of crownscale (*Atriplex coronata*) were identified during the literature review: Lost Hills crownscale (*Atriplex coronata* var. *vallicola*; CNPS Rank of 1B.2) and crownscale (*Atriplex coronata* var. *coronata*; CNPS Rank of 4.2).

Lost Hills crownscale may flower any time from April to September. Typical habitat of Lost Hills crownscale consists of dried beds of alkaline pools in shadscale scrub or annual grassland communities. Lost Hills crownscale occurs throughout San Joaquin Valley, in the west side foothills, and on the Carrizo Plain (CNPS 2020; McCormick Biological, Inc. 2020). There are no documented CNDDDB occurrences of Lost Hills crownscale within the project sites or in the vicinity. The nearest CNDDDB occurrence (CNDDDB Occ. 4) of Lost Hills crownscale is approximately 4.3 miles northeast of the project sites. Lost Hills crownscale was not observed during the reconnaissance-level field surveys conducted within the project sites and associated 250-foot buffer during the appropriate blooming period.

Crownscale has a slightly broader flowering period than Lost Hills crownscale and generally flowers between March and October. Crownscale grows in similar plant communities and dried pool beds and may occur on clay soils. Similar to Lost Hills crownscale, crownscale occurs throughout San Joaquin Valley, in the west side foothills, and on the Carrizo Plain, but tends to be found at more locations in the Coast Ranges and south toward Riverside County (CNPS 2020; McCormick Biological, Inc. 2020). Although it is of limited distribution, crownscale has been collected in 11 counties from Riverside County, throughout the San Joaquin Valley and adjacent Coast Ranges, and north through Colusa County. At least 57 populations have been reported throughout California (McCormick Biological, Inc. 2020). Approximately 50 individuals of crownscale were detected at a very low density within the Phase 1 area during reconnaissance-level field surveys. The surface in the Phase 1 portion of Site A is frequently disturbed because it is part of the permitted landfill. The surface consists of displaced soils deposited from other on-site areas. Given that this disturbance is repeated throughout the project sites and areas outside of the active landfill are periodically left to regrow vegetation, it is likely that additional individuals of this species are present on other portions of the site. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is no potential for this species to occur within Site B.

Recurved Larkspur

Recurved larkspur (*Delphinium recurvatum*) has a CNPS Rank of 1B.2, typically flowers from March to May, and is generally found on poorly drained, fine, alkaline soils in grasslands. This plant is very conspicuous when found in grassland, as it is typically taller than the surrounding grasses.

The nearest CNDDDB occurrence (CNDDDB Occ. 17) of recurved larkspur is approximately 4.3 miles northeast of the project sites. Recurved larkspur was not detected during the reconnaissance-level field surveys conducted within the project sites and associated 250-foot buffer during the appropriate blooming period. Although initial surveys were conducted at an appropriate time to detect this species, they were reconnaissance-level surveys and complete coverage of Site A was not conducted. Based on current conditions, it is not expected to occur

within the active landfill footprint and is very unlikely on the overburden areas that have revegetated. Based on a high level of historic disturbance and manipulation of soils, these revegetated overburden areas outside of the active landfill footprint have a low potential to support this species. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is no potential for this species to occur within Site B.

Hoover's Eriastrum

Hoover's eriastrum (*Eriastrum hooveri*) has a CNPS Rank of 4.2 and typically occurs in valley grassland, saltbush scrub (*Atriplex polycarpa* or *A. spinifera*), and pinyon/juniper woodland. The plants are often found in openings in shadscale scrub where cryptogamic crusts have developed on the soil surface. Hoover's eriastrum is known to occur in Fresno County, Kern County, on the Carrizo Plain (San Luis Obispo County), and in the Cuyama Valley (Santa Barbara County). Flowers typically appear in mid-to-late spring (April to May) with the flowering period continuing through July.

The nearest CNDDDB occurrence (CNDDDB Occ. 25) of Hoover's eriastrum is approximately 5.5 miles southeast of the project sites. Hoover's eriastrum was not detected during the reconnaissance-level field surveys conducted within the project sites and associated 250-foot buffer during the appropriate blooming period. Although initial surveys were conducted at an appropriate time to detect this species, they were reconnaissance-level surveys and complete coverage of Site A was not conducted. Based on current conditions, this species is not expected to occur within the active landfill footprint and is very unlikely on the overburden areas that have revegetated. Based on a high level of historic disturbance and manipulation of soils, these revegetated overburden areas outside of the active landfill footprint have a low potential to support this species. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is no potential for this species to occur within Site B.

Special-Status Wildlife

As provided in Appendix C.1 of this EIR, the literature review has identified 60 special-status animals with potential to occur in the project vicinity. Of these 60 special-status animals, 12 were determined to have the potential to occur within the project sites based on specific site characteristics. The following descriptions of special-status wildlife species that have the potential to occur are based on the *Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project* (McCormick Biological, Inc. 2020) included in Appendix C.1 of this EIR.

Reptiles

Blunt-Nosed Leopard Lizard

Blunt-nosed leopard lizard (BNLL; *Gambelia sila*) is Federally and State-listed as endangered and is fully protected by the State of California. BNLL was historically distributed over the San Joaquin Valley and in adjacent lower foothills, plains, and valleys. Currently, this species is found only in the San Joaquin Valley in sparsely vegetated desert scrub, lower canyon slopes,

valley floors, arroyos, and washes. Associated vegetation may include a variety of grasses, saltbush, goldenbush, iodine bush, and seep weed.

The nearest reported CNDDDB occurrence (CNDDDB Occ. 319) of BNLL is partially overlapping the southeast portion of Site A. BNLL was not observed during the reconnaissance-level field surveys, including the focused reconnaissance-level BNLL survey conducted by West Kern Environmental Consulting on June 8, 2020 (Appendix C.2). This focused reconnaissance-level survey was restricted to the proposed Phase I footprint within Site A. As described in Chapter 3, *Project Description*, it is anticipated that Phase I construction would commence in 2020, and Phase II and Phase III construction would commence in 2025 and 2030, respectively. Therefore, the areas within Site A associated with Phases II and III were not included in the focused BNLL survey and would be surveyed in advance of construction for each of the two remaining phases.

The reconnaissance-level surveys found no sign or indication of BNLL within the survey area. However, small mammal burrows suitable for occupation by BNLL were observed at low to moderate density within most of the recovering vegetated areas within Site A. The vegetated areas within Site A provide suitable habitat for this species; therefore, there is potential for this species to occur within Site A. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is a very low potential for this species to occur within Site B.

San Joaquin Coachwhip

San Joaquin coachwhip (*Masticophis flagellum ruddocki*), a California SSC, is endemic to California and typically found in valley grassland and saltbush scrub associations. This species ranges from Arbuckle in Colusa County, southward to the Grapevine in the Kern County portion of the San Joaquin Valley, and westward into the inner South Coast Ranges. An isolated population occurs in Northern California in the Sutter Buttes of Sutter County.

The nearest reported CNDDDB occurrence (CNDDDB Occ. 24) of San Joaquin coachwhip is approximately 3.8 miles southeast of the project sites. The vegetated areas within Site A provide suitable habitat for this species, and San Joaquin coachwhip was observed within Site A during one of the 2019 field surveys; therefore, this species is known to be present within Site A. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is a very low potential for this species to occur within Site B.

Coast Horned Lizard

Coast horned lizard (*Phrynosoma blainvillii*), a California SSC, is typically found in a variety of habitats; they require loose, fine soils with a high sand fraction, an abundance of native ant populations, and open areas with limited overstory for basking.

The nearest reported CNDDDB occurrence (CNDDDB Occ. 635) of coast horned lizard is approximately 8.4 miles northeast of the project sites. Although coast horned lizard was not observed during the field surveys, the vegetated areas within Site A provide suitable habitat for this species; therefore, there is potential for this species to occur within the Site A. Site B is

entirely disturbed and devoid of suitable habitat; therefore, there is a very low potential for this species to occur within Site B.

Birds

Grasshopper Sparrow

Grasshopper sparrow (*Ammodramus savannarum*), a California SSC, is typically found in a variety of habitats within its known range, but, in California, seems to prefer moderately open grasslands with short to moderate vegetation height and scattered shrubs, such as California sagebrush (*Artemisia californica*). Grasshopper sparrow is considered a rare summer resident of California from March to September, and little is known of its wintering status. The naturally patchy range of this species in California has become even more fragmented due to agricultural and urban development.

No recorded CNDDDB occurrences of grasshopper sparrow are within 10 miles of the project sites, and this species was not observed during the field surveys. Marginal annual grassland and shrub habitats within Site A provide suitable habitat for this species; therefore, there is potential for this species to occur within Site A. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is a very low potential for this species to occur within Site B.

Burrowing Owl

Burrowing owl (*Athene cunicularia*), a California SSC, inhabits grassland habitats and utilizes the burrows of mammals, such as squirrels, coyotes, foxes, and badgers. This species is found throughout the Central Valley, San Francisco Bay Area, Carrizo Plain, and Imperial Valley. Typical habitat includes open grasslands, agricultural or range lands, and desert lands with short, sparse vegetation at elevations from 200 feet below sea level to 9,000 feet above sea level. The Central Valley population resides in the area year-round in the annual and perennial grasslands or other vegetation communities that support little to no tree or shrub cover. In California, the species is typically found in close association with California ground squirrels (*Otospermophilus beecheyi*), which create burrows that are used by burrowing owls as year-round shelter and seasonal nesting habitat; however, burrowing owls may also use human-made structures, such as culverts, corrugated metal pipes, debris piles, or openings beneath pavement, as shelter and nesting habitat. During active periods of the year, they may be observed aboveground in the vicinity of their burrows or roosting on the ground or on nearby high spots, such as berms, fence posts, or shrubs.

The nearest reported CNDDDB occurrences (CNDDDB Occs. 530 and 616) of burrowing owl are approximately 1.25 miles west and 1.5 miles southeast of the project sites, respectively. Burrowing owl was not observed during the field surveys; however, California ground squirrel was observed during the field surveys, and burrowing owl is known to occupy California ground squirrel burrows for nesting and shelter. The vegetated areas within Site A provide suitable habitat for this species and likely support small mammals that are typical prey items in its diet; therefore, there is potential for this species to occur within Site A. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is a very low potential for this species to occur within Site B.

Loggerhead Shrike

Loggerhead shrike (*Lanius ludovicianus*), a California SSC, is typically found in open habitats, such as savannas and deserts with scattered shrubs, trees, posts, fences, utility lines, or other perches. In California, loggerhead shrike occurs as a resident over most of the state but is absent from high mountain regions.

There are no reported CNDDDB occurrences for loggerhead shrike within 10 miles of the project sites. One loggerhead shrike was observed within Site A during one of the field surveys in 2020; therefore, this species is known to be present within Site A. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is a very low potential for this species to occur within Site B.

Mammals

San Joaquin Antelope Squirrel

San Joaquin antelope squirrel (SJAS; *Ammospermophilus nelsoni*), a State threatened species, is typically found in grasslands or open shrublands. Associated shrubs include saltbush (*Atriplex* spp.), bladderpod (*Isomeris arborea*), goldenbush (*Isocoma acradenia*), snakeweed (*Gutierrezia bracteata*), and others.

The nearest reported CNDDDB occurrence (CNDDDB Occ. 61) for SJAS is approximately 0.8 mile northwest of the project sites. SJAS was not observed during any of the field surveys, including the species-specific reconnaissance-level survey conducted on June 8, 2020; however, small mammal burrows were found in low density during the site visits conducted within Site A. Further, the vegetated areas within Site A provide suitable habitat for this species; therefore, there is potential for this species to occur within Site A. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is a very low potential for this species to occur within Site B.

Giant Kangaroo Rat

Giant kangaroo rat (GKR; *Dipodomys ingens*), a Federally and State endangered species, typically occupies annual grasslands and sparse shrublands with well-drained, usually loamy or sandy loam soils. This species favors flat to gently sloping terrain with low annual precipitation, typically 5 inches or less, in the southwestern San Joaquin Valley and adjacent plateaus and valleys in the inner Coast Ranges.

No recorded CNDDDB occurrences of GKR are within 10 miles of the project sites. No GKR or their characteristic burrows or precinct signs were observed during the field surveys. However, the vegetated areas within Site A provide suitable habitat for this species; therefore, there is potential for this species to occur within Site A. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is a very low potential for this species to occur within Site B.

Short-Nosed Kangaroo Rat

Short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus*), a California SSC, typically occurs in flat or gently sloping terrain containing friable soils that are often associated with grassland (largely non-native) and/or desert-shrub vegetation, primarily saltbush (*Atriplex* sp.) and California ephedra (*Ephedra californica*).

The nearest reported CNDDDB occurrence (CNDDDB Occ. 16) of short-nosed kangaroo rat is approximately 6.8 miles southeast of the project sites. Short-nosed kangaroo rat was not observed during the field surveys; however, small mammal burrows that could be occupied by this species were observed throughout the vegetated areas within Site A. These vegetated areas provide suitable habitat for this species and there is potential for this species to occur in the area. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is a very low potential for this species to occur within Site B.

Tulare Grasshopper Mouse

Tulare grasshopper mouse (*Onychomys torridus tularensis*), a California SSC, inhabits arid grassland and shrubland associations and can be found along the western margin of the Tulare Basin, including western Kern County; within the Carrizo Plain Natural Area; along the Cuyama Valley side of the Caliente Mountains in San Luis Obispo County; and in the Ciervo-Panoche Region in Fresno and San Benito Counties.

The nearest reported CNDDDB occurrence (CNDDDB Occ. 9) of Tulare grasshopper mouse is approximately 8.5 miles east of the project sites. Tulare grasshopper mouse was not observed during the field surveys; however, the vegetated areas within Site A provide suitable habitat for this species. Therefore, there is potential for this species to occur within Site A. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is a very low potential for this species to occur within Site B.

American Badger

American badger (*Taxidea taxus*), a California SSC, inhabits drier open stages of a variety of habitats (McCormick Biological, Inc. 2020). American badgers are mostly found in areas with friable soils where they can dig burrows and hunt prey, such as California ground squirrel and other small mammals.

No recorded CNDDDB occurrences of American badger are within 10 miles of the project sites. No American badgers or their characteristic dens were detected during the field surveys; however, prey species, such as California ground squirrel, were observed within Site A. Additionally, the vegetated areas within Site A provide suitable habitat for this species; therefore, there is potential for this species to occur within Site A. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is a low potential for this species to occur within Site B.

San Joaquin Kit Fox

San Joaquin kit fox (SJKF; *Vulpes macrotis mutica*) is a Federally listed endangered and State-listed threatened species. SJKF occurs in a variety of open grassland, oak savannah, and shrub vegetation types/habitats, as well as oil-producing and urban areas in Kern County. In the southern San Joaquin Valley portion of the range, SJKF is generally found in sparse, annual grassland and scrub communities (valley sink scrub, saltbush scrub) with low annual precipitation. Home ranges for the taxon have been reported by several authors to range from 1 to 12 square miles with large overlap in home ranges among individuals, though dens are restricted to a single family. They change dens on a regular basis, likely due to prey depletion; in one study, a single SJKF was tracked to 70 dens during a 2-year period.

There are many reported SJKF occurrences located within 10 miles of the project sites. The nearest reported CNDDDB occurrence (CNDDDB Occ. 1,039) of SJKF is approximately 1 mile south of the project sites. The 2020 field surveys detected one potential den and six known den entrances. One of the potential dens and two of the known dens are located directly adjacent to Site A. The remaining three known dens are located northeast of Site A. Remote-sensing cameras were used to assess status of SJKF dens identified during the 2020 surveys. SJKF were observed emerging from one of the dens and investigating all of the known and potential dens during the monitoring period. This species is known to be present within Site A. Site B is entirely disturbed and devoid of suitable habitat; therefore, there is a low potential for this species to occur within Site B.

Sensitive Natural Communities

Certain natural communities are designated as sensitive by various resource agencies, such as the CDFW, or in local policies and regulations. These sensitive communities are generally considered to have important functions or values for wildlife and/or are recognized as declining in extent or distribution and are considered threatened enough to warrant some level of protection. For example, many local agencies in California consider protection of oak woodlands important, and Federal, State, and most local agencies also consider wetlands and riparian habitat as sensitive communities. CDFW tracks communities it believes to be of conservation concern through its List of California Terrestrial Communities and the CNDDDB, and these communities are typically considered special status for the purposes of CEQA analysis.

The project sites consist of disturbed, denuded land with areas of vegetation growing outside the footprint of the existing landfill facility. Vegetation communities consist primarily of annual grassland and desert saltbush shrubs. No riparian habitat or other sensitive natural community identified in regional or local plans, policies, regulations, or by the USFWS or CDFW are located within the project sites or immediate vicinity.

Critical Habitat

No critical habitat units are located within the project vicinity. The nearest designated critical habitat is USFWS-designated Buena Vista Lake ornate shrew (*Sorex ornatus relictus*), located approximately 8.4 miles southeast of the project sites (USFWS 2020a).

Wildlife Movement Corridors

The importance of continuous habitat corridors and the effects of habitat fragmentation on wildlife populations have been studied extensively and are well understood. Land development and linear structures (e.g., roadways) convert large habitat blocks into noncontiguous patches separated by barriers; individual animals and entire populations can become isolated in remnant habitat “fragments.” Depending on their size and other characteristics, these fragments may not support viable populations of some animals.

Wildlife movement corridors are linear habitats that function to connect two or more areas of significant wildlife habitat. These corridors may function on a local level as links between small habitat patches (e.g., streams in urban settings) or may provide critical connections between regionally significant habitats (e.g., deer movement corridors). Wildlife corridors typically include vegetation and topography that facilitate the movement of wild animals from one area of suitable habitat to another in order to fulfill foraging, breeding, and territorial needs. These corridors often provide cover and protection from predators that may be lacking in surrounding habitats. Wildlife corridors generally include riparian zones and similar linear expanses of contiguous habitat.

The project sites consist of disturbed, denuded land with areas of vegetation growing outside the footprint of the existing landfill facility. Vegetation communities consist primarily of annual grassland and desert saltbush shrubs. The project sites are bifurcated by Holloway Road and do not provide continuous habitat linkages between habitat patches and are not considered to function as a wildlife corridor.

Jurisdictional Waters

Based on a review of the National Wetlands Inventory (NWI) Mapper (USFWS 2020b), no wetlands or jurisdictional features are mapped within the project sites. No features were identified within the project sites during reconnaissance surveys that would be classified as riparian habitat, wetlands, or other waters.

4.3.3 Regulatory Setting

Federal

Federal Endangered Species Act

The ESA of 1973 (United States Code [USC] Title 16, Sections 1531–1543) and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. In addition, the ESA defines species as threatened or endangered and provides regulatory protection for listed species. The ESA 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.

ESA Section 9 lists those actions that are prohibited under the ESA. 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 non-federal action with the potential to result in take of a listed species can be allowed under an incidental take permit. Application procedures are found at 50 CFR Sections 13 and 17 for species under the jurisdiction of USFWS and 50 CFR Sections 217, 220, and 222 for species under the jurisdiction of the National Marine Fisheries Service.

ESA Section 4(a)(3) and (b)(2) requires the designation of critical habitat to the maximum extent possible and prudent based on the best available scientific data and after considering the economic impacts of any designations. Critical habitat is defined in ESA Section 3(5)(A): (1) areas within the geographic range of a species that are occupied by individuals of that species and contain the primary constituent elements (physical and biological features) essential to the conservation of the species, thus warranting special management consideration or protection; and (2) areas outside of the geographic range of a species at the time of listing but that are considered essential to the conservation of the species.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC 703–711), 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” (16 USC 703). The current list of species protected by the MBTA includes several hundred species and essentially includes all native birds. Permits for take of nongame migratory birds can be issued only for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and personal property.

Bald and Golden Eagle Protection Act of 1940 (USC, Title 16, Section 668, enacted by 54 Stat. 250)

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 protects bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of these species, and establishes civil penalties for violation of this act. Take of bald and golden eagles includes to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” To disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering

with normal breeding, feeding, or sheltering behavior (Federal Register [FR], volume 72, page 31132; 50 CFR 22.3).

Federal Clean Water Act (USC, Title 33, Sections 1251–1376)

The Federal Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation’s waters. Section 401 requires a project proponent for a Federal license or permit that allows activities resulting in a discharge to waters of the U.S. to obtain State certification, thereby ensuring that the discharge will comply with provisions of the CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S. Section 404 establishes a permit program administered by U.S. Army Corps of Engineers (USACE) that regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. USACE implementing regulations are found at CFR, Title 33, Sections 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency (EPA) in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

State

California Endangered Species Act

The CESA (CFGC Section 2050 et seq.) establishes the policy of the State to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that State agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no State agency consultation procedures under the CESA. For projects that would affect a listed species under both the ESA and CESA, compliance with the ESA would satisfy the CESA if CDFW determines that the Federal incidental take authorization is “consistent” with the CESA under CFGC Section 2080.1. For projects that would result in take of a species listed under the CESA only, the project proponent would have to apply for a take permit under CFGC Section 2081(b).

California Environmental Quality Act Guidelines Section 15380

In addition to the protections provided by specific Federal and State statutes, State CEQA *Guidelines* Section 15380(b) provides that a species not listed on the Federal or State list of protected species nonetheless may be considered rare or endangered for purposes of CEQA if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the ESA and the section of the CFGC dealing with rare or endangered plants or animals. This section was included in CEQA primarily to deal with situations in which a public agency is reviewing a project that may have a significant 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 regionally or locally significant resources, including natural communities. Although natural communities do not at present have legal protection of any kind, CEQA calls for an assessment of whether any such resources would be affected and requires findings of significance if there would be substantial losses. Natural communities listed by CNDDDB as sensitive are considered by CDFW to be significant resources and fall under the State CEQA *Guidelines* for addressing impacts. Local planning documents, such as general plans, often identify these resources as well.

California Fish and Game Code

Several sections of the CFGC are applicable to analysis of biological resource impacts that may be associated with the project, which are summarized in the following sections.

Section 1580 declares the policy of the State is to protect threatened or endangered native plants, wildlife, aquatic organisms or specialized habitat types, both terrestrial and non-marine aquatic, or large, heterogeneous natural gene pools for the future use of mankind through the establishment of ecological reserves.

Sections 1600–1616 require notification of the CDFW if any of the following may occur within a river, stream, or lake in the State of California:

- Substantial diversion or obstruction of the natural flow;
- Substantially changing or using any material from the bed, channel, or bank; or
- Depositing or disposing of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

This notification may result in a Streambed Alteration Agreement between the project applicant and the CDFW. Activities in intermittent streams and canals may require Streambed Alteration Agreements.

Section 1900, et seq. is known as the NPPA of 1977. The purpose of this chapter is to preserve, protect, and enhance endangered or rare native plants of California. Many species and subspecies of native plants are endangered because their habitats are threatened with destruction, drastic modification, or severe curtailment. Commercial exploitation, disease, and other factors also represent threats to species and subspecies of native plants. This portion of the CFGC designates rare, threatened, and endangered plant taxa of California.

Sections 1930–1933 established the Significant Natural Areas Program and declared it to be administered by the CDFW because areas containing diverse ecological and geological characteristics are vital to the continual health and well-being of the State's citizens and natural resources. The CDFW is responsible for obtaining access to the most recent information with respect to natural resources by maintaining, expanding, and keeping a current data management system (the CNDDDB), designed to document information on these resources. This data is required to be made available to interested parties on request, and costs are to be shared by all who use the data management system. The State's most significant natural areas are to be designated and, after consultation with Federal, State, and local agencies; educational

institutions; civic and public interest organizations; private organizations; landowners; and other private individuals, periodic reports regarding the most significant natural areas are to be prepared. The CDFW is required to maintain and perpetuate these significant natural areas for present and future generations in the most feasible manner. The CFGC also requires that the CDFW coordinate services with Federal, State, local and private interests wishing to aid in the maintenance and perpetuation of significant natural areas.

Sections 2080 and 2081. Section 2080 of the CFGC states that “No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act 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 3503 prohibits taking, possessing, or needlessly destroying the nest of eggs or any bird. Birds of prey are included in Section 3503.5.

Section 3513 protects California’s migratory birds by making it unlawful to take or possess any migratory, non-game bird (or any part of such bird) as designated in the MBTA.

Sections 3511, 4700, 5050, 5515 prohibit take of animals that are classified as fully protected in California. Take of fully protected species is specifically prohibited, even if other sections of the CFGC provide for incidental take of the 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 SJKF, without prior authorization from the CDFW.

California Code of Regulations Title 14, Section 15000 et seq.

The definition of what constitutes a significant impact to the environment, as well as a discussion of the necessary documentation needed for each impact, is outlined in 14 CCR Section 15000 et seq. In addition to the policies declared by the Legislature concerning environmental protection and administration of CEQA in Sections 21000, 21001, 21002, and 21002.1 of the Public Resources Code (PRC), this portion of the CCR prescribes the regulations to be followed by all State and local agencies in implementing CEQA.

Native Plant Protection Act

The NPPA (CFGF Sections 1900–1913) requires all State agencies to utilize 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 the CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The project proponent is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of the NPPA and sections of CEQA that apply to rare or endangered plants.

Regional Water Quality Control Board

Under CWA Section 401, the RWQCB must certify that actions receiving authorization under CWA Section 404 also meet State water quality standards. The RWQCB also regulates waters of the State under the Porter-Cologne Water Quality Control Act. The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. The RWQCB may require compensatory mitigation for impacts to wetlands and/or waters of the State, which may include waters deemed “isolated” or not subject to Section 404 jurisdiction, under the Solid Waste Agency of Northern Cook County (SWANCC) legal decision. The thrust of the SWANCC legal decision is that isolated, non-navigable, and intrastate waters are not “waters of the United States” subject to USACE jurisdiction under the CWA. Filling, dredging, or excavation of isolated waters may constitute a discharge of waste to waters of the State and if so, then prospective dischargers are required to file a Report of Waste Discharge to obtain Waste Water Discharge Requirements as authorization for that fill or waiver thereof from the RWQCB.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the State fall under the jurisdiction of the appropriate RWQCB. Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under CWA Section 401.

Regional

Kern County Draft Valley Floor Habitat Conservation Plan

The project sites are within the management area of the Draft Kern County Valley Floor Habitat Conservation Plan (KCVFHCP). The Draft KCVFHCP area occurs in the western portion of Kern County except for areas at the base of the Tehachapi Mountains. The area is limited to the southern San Joaquin Valley floor of Kern County, including the project sites.

The KCVFHCP is a pending Habitat Conservation Plan (HCP) pursuant to the ESA covering over 3,110 square miles in Kern County with a purpose of creating a comprehensive strategy to conserve and protect the SJKF, BNLL, and 23 other sensitive species. In addition, this KCVFHCP provides a streamlined program for complying with the requirements of the CESA

and ESA. The KCVFHCP has not yet been approved by the USFWS, CDFW, or the Kern County Board of Supervisors.

If and when completed, incidental take permits for 13 covered species would be issued to participating State agencies and local jurisdictions. This incidental take authorization cannot be implemented, however, until the local governments complete the application for incidental take permits and receive approval from Federal and State wildlife agencies.

Local

Kern County General Plan

The *Kern County General Plan* identifies the Federal, State, and local statutes, ordinances, or policies that govern the conservation of biological resources that must be considered by Kern County during the decision making process for any project that could affect biological resources. The Land Use, Open Space, and Conservation Element of the *Kern County General Plan* provides for a variety of land uses for future economic growth while also ensuring the conservation of Kern County's agricultural, natural, and resource attributes. Section 1.10, "General Provisions," provides goals, policies, and implementation measures that apply to all types of discretionary projects. In addition, the *Kern County General Plan* includes policies specific to threatened and endangered species.

Chapter 1 Land Use, Open Space, and Conservation Element

1.10 General Provisions

1.10.5 Threatened and Endangered Species

Goals

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

Policies

Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and Federal laws.

Policy 28: The County should work closely with State and Federal agencies to assure that discretionary projects avoid or minimize impacts on fish, wildlife, and botanical resources.

Policy 29: The County will seek cooperative efforts with local, State, and Federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.

Policy 30: The County will promote public awareness of endangered species laws to help educate property owners and the development community of local, State, and Federal programs concerning endangered species conservation issues.

Policy 31: Under the provisions of CEQA, the County, as lead agency, will solicit comments from the CDFW and the USFWS when an environmental document (Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report) is prepared.

Implementation Measures

Implementation Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.

Implementation Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.

Implementation Measure S: Pursue the development and implementation of conservation programs with State and Federal wildlife agencies for property owners desiring streamlined endangered species mitigation programs.

Chapter 5 Energy Element

5.2 Importance of Energy to Kern County

Policies

Policy 8: The County should work closely with local, state, and federal agencies to assure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts to fish, wildlife, and botanical resources, wherever practical.

Policy 9: The County should develop and implement measures which result in long-term compensation for wildlife habitat, which is unavoidably damaged by energy exploration and development activities.

Kern County Zoning Ordinance

Section 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.

4.3.4 Impacts and Mitigation Measures

This section evaluates the impacts to biological resources that may occur during construction and operation of the project. It describes the sensitive biological resources located on and adjacent to the project sites 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, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

This section describes the potential biological resources impacts associated with development of the project. This analysis is based on the following:

- *Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project, Kern County, California* (McCormick Biological, Inc. 2020), included in Appendix C.1 of this EIR; and
- *Results of Biological Assessment of Current Site Conditions for Phase 1 of the Lost Hills Composting and Waste to Energy Project, Lost Hills, California* (West Kern Environmental Consulting, LLC 2020), included in Appendix C.2 of this EIR.

Baseline conditions were first established for the affected environment relevant to biological resources, as presented above in Section 4.3.2, *Environmental Setting*. To establish baseline conditions, a literature review was conducted, which included a review of the CNDDDB, USFWS IPaC, USFWS Critical Habitat Portal, and CNPS Inventory of Rare and Endangered Plants. Additionally, multiple reconnaissance-level field surveys were conducted on the dates previously identified in Section 4.3.1, *Introduction*.

The reconnaissance-level field surveys involved walking belt transects within potential habitat areas associated with the project sites. A 250-foot buffer was walked where accessible. The field surveys documented observations of all identified plant and wildlife species, including direct observations and/or significant sign (e.g., scat, tracks, feather/fur, prey remains,

nests/burrows, or any other indication of wildlife presence) deemed necessary to document potential occupation and habitat suitability. Species identification was aided by the use of binoculars and field guides, and locations of significant findings were recorded using handheld, global positioning system (GPS) units. SJKF dens were classified as potential, known, natal, or atypical as defined by the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011). Remote sensing cameras were placed at selected dens to assess status and potential canid use. Cameras were monitored between February 3 and 14, 2020.

All plant taxa encountered during the field surveys were identified to the extent possible. Identifications were made using keys contained in *The Jepson Manual: Vascular Plants of California* and online updates containing revisions to taxonomic treatments (McCormick Biological, Inc. 2020). Plant identifications were made using a 10X or greater magnification field hand lens and/or were collected and identified using a dissecting microscope. Locations of special-status plant species or tentatively identified special-status plant species were recorded using a handheld GPS unit. A transect survey of the Phase 1 composting area within Site A was conducted on June 22, 2020. While two other phases are proposed for this project to be completed by 2030, this survey was restricted to the Phase 1 project boundary because Phase 1 is the only phase planned for the 2021 season. Surveys were not conducted for Site B because it is devoid of natural habitat and vegetation.

Based on the literature review and site characteristics identified from the field surveys, potential project impacts were determined in relation to the special-status species that may occur within the project sites and the aspects of the project that could result in impacts to those species. Species whose occurrence in the vicinity and life history makes them vulnerable to impacts, even if they are not known to occur directly on the project sites, were also evaluated. The predicted interactions between the affected environment and project activities are evaluated based on the significance criteria identified below (*Thresholds of Significance*).

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist (updated in May 2019) identifies 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 on biological resources. The Kern County Environmental Checklist states that a project would normally be considered to have a significant impact related to biological resources if it would:

- a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- b. 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;

- c. 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;
- d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Project Impacts and Mitigation Measures

Impact 4.3-1: 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 regional or local plans, policies, or regulations, or by the USFWS or CDFW.

eASP Composting Facility

Site A contains disturbed land that lacks vegetation within the area associated with the existing landfill facility. Vegetation consisting primarily of annual grassland (*Bromus rubens*—*Schismus [arabicus, barbatus]*) and desert saltbush shrubs associated with *Atriplex polycarpa* alliance occurs outside the boundary of the existing landfill facility within Site A. Annual grassland and desert saltbush shrubs comprise approximately 91.3 and 29.5 acres of the site, respectively. These vegetated areas are recovering from previous disturbance associated with prior surface mining activities and ongoing operations associated with the landfill.

Special-Status Plants

As discussed in Section 4.3.2, *Environmental Setting*, based on the literature review and field surveys, the following seven special-status plant species are considered to have the potential to occur within Site A due to the presence of potentially suitable habitat conditions:

- California jewelflower
- Kern mallow
- San Joaquin woollythreads
- Lost Hills crownscale
- crownscale
- Hoover's eriastrum
- recurved larkspur

Based on reconnaissance-level field surveys conducted during the appropriate blooming period for special-status plants considered to have potential to occur within Site A, only crownscale,

a plant of limited distribution (CNPS Rank 4.2), was detected within Site A; no other special-status plants were detected within Sites A or B. Approximately 50 individuals of crownscale were detected at a very low density within the Phase 1 footprint of Site A during reconnaissance-level field surveys. The surface in the Phase 1 portion of Site A is frequently disturbed due to ongoing operations of the existing permitted landfill. The surface consists of displaced soils deposited from other on-site areas. Given that this disturbance is repeated throughout the project sites and areas outside of the active landfill are periodically left to regrow vegetation, it is likely that additional individuals of this species are present on other portions of the site. Given the widespread nature of crownscale occurrences in California and relatively small number of individuals present on the site, impacts to this species are considered less than significant.

No other special-status plant species with potential to occur in the project sites were observed during field surveys conducted during the appropriate blooming periods; however, the surveys were reconnaissance-level and complete coverage of Site A was not conducted. Based on current conditions, special-status plant species are not expected to occur within the active landfill footprint and are very unlikely on the overburden areas that have revegetated. Due to the high level of historic disturbance and manipulation of soils, these revegetated overburden areas outside of the active landfill footprint have a low potential to support special-status plant species; however, they still have the potential to occur.

Project activities have the potential to result in impacts to special-status plant species if present within proposed disturbance areas at the time of ground-disturbing activities. As such, if project activities cannot avoid the vegetated areas within Site A, as shown on **Figure 4.3-1, *Vegetation Communities Map***, potentially significant impacts could occur. Mitigation Measure MM 4.3-4 (COM) would require protocol-level botanical surveys prior to commencement of ground-disturbing project activities within Site A to ensure any special-status plant species present within the site are identified prior to disturbance and to ensure appropriate avoidance and minimization measures are implemented, as necessary. With implementation of Mitigation Measure MM 4.3-4 (COM) impacts to special-status plants would be less than significant.

Special-Status Wildlife

As discussed in Section 4.3.2, *Environmental Setting*, based on the literature review and field surveys, the following 12 special-status wildlife species have the potential to occur within Site A due to the presence of suitable habitat:

- blunt-nosed leopard lizard
- San Joaquin coachwhip
- coast horned lizard
- grasshopper sparrow
- burrowing owl
- loggerhead shrike
- San Joaquin antelope squirrel
- giant kangaroo rat
- short-nosed kangaroo rat
- Tulare grasshopper mouse
- American badger
- San Joaquin kit fox

Blunt-Nosed Leopard Lizard

The reconnaissance-level surveys (including the BNLL focused survey) found no sign or indication of BNLL within the survey area; however, small mammal burrows suitable for occupation by BNLL were observed within most of the recovering vegetated areas within Site A at low to moderate density. The vegetated areas within Site A provide suitable habitat for this species; therefore, there is potential for this species to occur within Site A. While the species is not expected to occur in the active landfill due to the frequent and intense nature of disturbance on that portion of the site, the presence of small mammal burrows and records of BNLL in the surrounding area indicates a possibility that BNLL could occupy these features. BNLL are underground in burrows much of the year and are only active during the warmer spring and summer months. The site visits conducted for the reconnaissance evaluation are not sufficient to determine absence from this location; a focused, protocol-level survey was conducted within the Phase 1 composting area (see Appendix C.2), which confirmed the absence of suitable habitat and BNLL from this location. Given those factors, there is potential that BNLL could be impacted by project ground-disturbing activities within Site A. Ground-disturbing project activities within Site A have the potential to result in direct and indirect impacts to BNLL if present during construction. Direct and indirect impacts could include injury, mortality, and habitat modification. Mitigation has been included to require protocol surveys, avoidance measures, appropriate burrow buffers, and agency consultation to ensure potential impacts are reduced to less than significant.

San Joaquin Coachwhip

The vegetated areas within Site A provide suitable habitat for this species, and San Joaquin coachwhip was observed within Site A during one of the 2019 field surveys; therefore, this species is known to be present within Site A. Ground-disturbing project activities within Site A have the potential to result in direct and indirect impacts to this species if present during construction. Direct and indirect impacts could include injury, mortality, and habitat modification. Implementation of mitigation measures would ensure that potential impacts would be avoided and/or minimized. Therefore, potential impacts would be less than significant with mitigation.

Coast Horned Lizard

Coast horned lizard was not observed during the field surveys; however, the vegetated areas within Site A provide suitable habitat for this species. Therefore, there is potential for this species to occur within Site A, and ground-disturbing project activities within Site A have the potential to result in direct and indirect impacts to this species if present during construction. Direct and indirect impacts could include injury, mortality, and habitat modification. Implementation of mitigation measures would ensure that potential impacts would be avoided and/or minimized. Therefore, potential impacts would be less than significant with mitigation.

Burrowing Owl

Although no burrowing owl or sign of species presence was observed during the reconnaissance-level surveys, California ground squirrel burrows, which are frequently used

by burrowing owl for nesting and shelter, were observed within Site A. Site A is likely to support small mammals that are typical prey items in the diet of burrowing owl. Therefore, foraging and potential nesting habitat would be removed as a result of the project. If present during construction, burrowing owl and burrows could be crushed or destroyed by vehicles during construction activities, which would constitute a potentially significant impact. Mitigation has been included to require a pre-disturbance survey, establishment of appropriate buffers, and avoidance measures. Implementation of mitigation measures would reduce potential impacts to less than significant.

Other Nesting Birds

Birds nesting on or in the immediate vicinity of Site A could be disturbed if the project is conducted during the nesting season when active nests are present. If these nests are disturbed to the extent that eggs are destroyed, young are injured or killed, or adults abandon the nests, a violation of the MBTA and CFGC could result. Mitigation has been included to require a preconstruction nesting bird survey and establishment of appropriate buffers, if necessary, to ensure potential impacts to nesting birds are avoided and reduced to less than significant.

San Joaquin Antelope Squirrel

SJAS was not observed during any of the field surveys, including the species-specific reconnaissance-level survey conducted on June 8, 2020; however, small mammal burrows were found in low density during the site visits within Site A. Further, the vegetated areas within Site A provide suitable habitat for this species; therefore, there is potential for this species to occur within Site A, and ground-disturbing project activities could result in direct and indirect impacts to this species through injury, mortality, or habitat modification if present during construction. Mitigation has been included that would require protocol surveys and avoidance buffers to ensure potential impacts are avoided. Therefore, potential impacts would be less than significant with mitigation.

Giant Kangaroo Rat

No GKR or their characteristic burrows or precinct signs were observed during the field surveys; however, the vegetated areas within Site A provide suitable habitat for this species. Therefore, there is potential for this species to occur within Site A, and ground-disturbing project activities could result in direct and indirect impacts to this species through injury, mortality, or habitat modification if present during construction. Mitigation has been included that would require protocol surveys, buffers, and relocation measures to ensure potential impacts are avoided and/or minimized. Therefore, potential impacts would be less than significant with mitigation.

Short-Nosed Kangaroo Rat

Short-nosed kangaroo rat was not observed during the field surveys; however, small mammal burrows that could be occupied by this species were observed throughout the vegetated areas within Site A. Therefore, there is potential for this species to occur within Site A, and ground-disturbing project activities could result in direct and indirect impacts to this species through injury, mortality, or habitat modification if present during construction. Mitigation has been

included that would require protocol surveys, avoidance buffers, and relocation measures to ensure potential impacts are avoided and/or minimized. Therefore, potential impacts would be less than significant with mitigation.

Tulare Grasshopper Mouse

Tulare grasshopper mouse was not observed during the field surveys; however, the vegetated areas within Site A provide suitable habitat for this species. Therefore, there is potential for this species to occur within Site A, and ground-disturbing project activities could result in direct and indirect impacts to this species through injury, mortality, or habitat modification if present during construction. Mitigation has been included that would require protocol surveys, avoidance buffers, and relocation measures to ensure potential impacts are avoided and/or minimized. Therefore, potential impacts would be less than significant with mitigation.

American Badger

No American badgers or their characteristic dens were detected during the field surveys; however, prey species, such as California ground squirrel, were observed within Site A. The vegetated areas within Site A provide suitable habitat for this species; therefore, there is potential for this species to occur within Site A. Implementation of the proposed project has the potential to result in direct and indirect impacts to this species through direct injury or mortality and through modification of potentially suitable habitat. Mitigation has been included to ensure potential impacts to this species are avoided and/or minimized. Therefore, potential impacts would be less than significant with mitigation.

San Joaquin Kit Fox

During the field survey, SJKF and active and potentially active dens were observed within Site A, as shown on **Figure 4.3-1, *Vegetation Communities Map***. SJKF and dens are known to be present within Site A and could be directly or indirectly impacted by project activities if present during construction activities. Individual animals and dens could be injured or killed by earthmoving activities and movement of large equipment used onsite, as well as delivery vehicles and personal vehicles. SJKF moving through the construction work area could be subject to vehicular mortality if present during work activities. Mitigation has been included to ensure potential impacts are avoided and/or minimized during construction; therefore, potential impacts would be less than significant with mitigation.

Summary

Construction of the composting facility within Site A could result in direct and indirect impacts to special-status animal species. Potential direct impacts could occur in the form of injury or mortality associated with the use and movement of construction equipment and materials, vegetation removal, crushing of occupied dens, and worker foot traffic. Wildlife is known to commonly enter open pipes, materials stockpiles, and storage containers, as well as get on, under, or in vehicles and equipment. In addition, terrestrial wildlife may fall into open excavations and become entrapped or injured. Closing or moving pipes with wildlife inside could lead to direct mortality of individuals. If present under pallets, wildlife could be killed or injured by equipment when moving materials. If present in, on, or under equipment or vehicles

when started or moving, wildlife could be crushed by tires, injured or killed by moving parts, or threatened through harassment by workers needing to access the vehicles.

Potential indirect impacts to special-status animal species include the loss of approximately 120 acres of marginally suitable habitat within Site A; disturbance from construction activities, such as noise, vibration, and dust, which may irritate these species and cause them to leave burrows and/or nests and migrate to adjacent areas where they may be more susceptible to predation and/or direct impacts from construction activities; and degradation of suitable habitat on- and off-site resulting from ground disturbance, erosion, and sedimentation.

Potential indirect impacts to wildlife could also result from nighttime lighting associated with the project facilities, as described in more detail in Section 4.1, *Aesthetics*. However, potential indirect impacts from nighttime lighting during operation and maintenance would be minimized through compliance with all development standards, the Kern County Zoning Ordinance, and the goals, policies, and implementation measures of the Kern County General Plan. The project would be required to implement Mitigation Measure MM 4.1-1 (COM, BEF, LDF), included in Section 4.1, *Aesthetics*, which requires compliance with Kern County's Dark Skies Ordinance to minimize nighttime lighting in unincorporated areas of Kern County. Compliance with this measure to minimize nighttime lighting would reduce indirect impacts to wildlife to a less-than-significant level.

Potentially significant impacts to special-status animal species would be avoided and or minimized through implementation of Mitigation Measures MM 4.1-1 (COM, BEF, LDF), MM 4.3-1 (COM, BEF), MM 4.3-2 (COM, BEF), MM 4.3-3 (COM, BEF), MM 4.3-4 (COM), MM 4.3-5 (COM), MM 4.3-6 (COM), MM 4.3-7 (COM, BEF), MM 4.3-8 (COM), MM 4.3-9 (COM), MM 4.3-10 (COM), MM 4.3-11 (COM), MM 4.3-12 (COM), and MM 4.3-13 (COM); therefore, impacts would be less than significant with mitigation.

Bioenergy Facility

The site associated with the proposed bioenergy facility (Site B) is an existing equipment staging yard for the H.M. Holloway Gypsum Mine. The site is entirely disturbed and devoid of vegetation. No special-status plants or animals were observed during the reconnaissance-level field surveys. The site has minimal potential to support special-status plants or animals. As such, construction and operation of the bioenergy facility would not be expected to affect special-status plants, animals, or habitat; however, due to the transitory nature of animals, it is possible that special-status animals could move through the site during construction. Potentially significant impacts to special-status animal species would be avoided and or minimized through implementation of Mitigation Measures MM 4.1-1 (COM, BEF, LDF), MM 4.3-1 (COM, BEF), MM 4.3-2 (COM, BEF), MM 4.3-3 (COM, BEF), and MM 4.3-7 (COM, BEF); therefore, impacts would be less than significant with mitigation.

Landfill Facility

The proposed project includes a request to modify the landfill's current CUP to allow for additional waste streams to be accepted at the landfill and to extend the hours of operation to 24 hours per day, 365 days per year. These proposed modifications would not increase the area

of disturbance or methods of disturbance associated with ongoing landfill operations; therefore, new or increased impacts to special-status plant species are not anticipated. Additionally, the modifications are not expected to result in new or increased impacts to special-status wildlife in the form of habitat loss, injury, or mortality. It is possible that new nighttime activities and lighting could disturb special-status animals, if present in the vicinity of the landfill facility. Potential indirect impacts to wildlife could also result from nighttime lighting associated with the project facilities, as described in more detail in Section 4.1, *Aesthetics*. However, potential indirect impacts from nighttime lighting during operation and maintenance would be minimized through compliance with all development standards, the Kern County Zoning Ordinance, and the goals, policies, and implementation measures of the Kern County General Plan. The project would be required to implement Mitigation Measure MM 4.1-1 (COM, BEF, LDF), included in Section 4.1, *Aesthetics*, which requires compliance with Kern County's Dark Skies Ordinance to minimize nighttime lighting in unincorporated areas of Kern County. Compliance with this measure to minimize nighttime lighting would reduce indirect impacts to wildlife to a less-than-significant level.

Mitigation Measures

Implement Mitigation Measure MM 4.1-1 (COM, BEF, LDF) (see Section 4.1, *Aesthetics*, for mitigation measures), in addition to the mitigation measures listed below.

MM 4.3-1 (COM, BEF) Prior to the issuance of grading or building permits from Kern County for activities within the composting or bioenergy facility footprints, the project proponent/operator shall retain a qualified biologist(s) who meets the qualifications of an authorized biologist as defined by U.S. Fish and Wildlife Service to oversee compliance with protection measures for all listed and other special-status wildlife species that may be affected by the construction, operation, and decommissioning of the project. The following measures pertain to qualified biologists on-site:

- a. The qualified biologist(s) shall be on the project site at the qualified biologist's discretion during all ground-disturbing activities that occur within 100 feet of any vegetated areas identified in the *Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project, Kern County, California* (McCormick Biological, Inc. 2020).
- b. The qualified biologist(s) shall have the right to halt activities that are in violation of the special-status species mitigation measures, as well as any regulatory permits from the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife, if applicable. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk, or at the qualified biologist's discretion.
- c. The qualified biologist(s) shall maintain a copy of applicable permits and biology-related plans on the project sites.

- d. The qualified biologist(s) shall have in their possession a copy of all mitigation measures while work is being conducted on the project sites.
- e. Prior to issuance of grading or building permits, contact information for the qualified biologist(s) shall be submitted to the Kern County Planning and Natural Resources Department.
- f. Individuals involved in biological monitoring shall be supervised by the qualified biologist(s) and shall have the appropriate experience to accomplish biological monitoring. Biological monitors shall comply with the above measures.

MM 4.3-2 (COM, BEF) Prior to the issuance of grading or building permits and for the duration of construction activities, and within a minimum of 1 week of initial ground disturbance at the project sites, staging areas, and/or transmission corridors, all construction workers shall attend a Worker Environmental Awareness Training and Education Program that will be developed by a qualified biologist. The Worker Environmental Awareness Training and Education Program will be developed and presented by a qualified biologist(s) or designee approved by the qualified biologist(s) and may be conducted in person or via videotape or other electronically recorded media.

Any personnel associated with construction that did not attend the initial Worker Environmental Awareness Training and Education Program shall attend a subsequent Worker Environmental Awareness Training and Education Program. Any employee responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Worker Environmental Awareness Training and Education Program prior to starting work on the project and on an annual basis.

On-site employees responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Worker Environmental Awareness Training and Education Program prior to operations or decommissioning. The Worker Environmental Awareness Training and Education Program will be developed and presented by a qualified biologist(s) or designee approved by the qualified biologist(s). The Worker Environmental Awareness Training and Education Program shall include the components described below:

- a. Information on the life history and identification of the blunt-nosed leopard lizard, burrowing owl, raptor species, San Joaquin kit fox, and American badger, as well as other wildlife, special-status plant species, and the California Department of Fish and Wildlife-regulated drainages that may be affected during construction activities. The Worker Environmental Awareness Training and Education Program shall also discuss the legal protection status of each species, the definition of “take” under the Endangered Species Act and California

Endangered Species Act, measures the project proponent/operator shall implement to protect the species, reporting requirements, specific measures for workers to avoid take of special-status plant and wildlife species, and penalties for violation of the requirements outlined in the mitigation measures and agency permit requirements. The Worker Environmental Awareness Training and Education Program shall also discuss the measures outlined in Mitigation Measures MM 4.3-3 (COM, BEF) and MM 4.3-4 (COM) through MM 4.3-13 (COM).

- b. An acknowledgement form signed by each worker indicating that the Worker Environmental Awareness Training and Education Program has been completed shall be kept on file on-site.
- c. A copy of the training transcript and/or training video, a list of the names of all personnel who attended the Worker Environmental Awareness Training and Education Program, and signed acknowledgement forms shall be submitted to the Kern County Planning and Natural Resources Department.
- d. A copy of the training transcript, training video, or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with, as necessary.
- e. A sticker shall be placed on hard hats indicating that the worker has completed the Worker Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Worker Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker.

MM 4.3-3 (COM, BEF) During construction, operation, and decommissioning, the project proponent/operator and/or contractor(s) shall implement the general avoidance and protective measures described below:

- a. Prior to conducting vegetation clearing or grading activities associated with construction or decommissioning, a qualified biologist or biological monitor that has been approved by the qualified biologist shall perform preconstruction visual surveys of the area immediately prior to conducting these activities to ensure that no special-status animals are present. The qualified biologist or biological monitor shall monitor all initial construction and decommissioning ground-disturbing activities. A report of those activities shall be submitted to the Kern County Planning and Natural Resources Department within 30 days of completion of activities.

- b. Sensitive biological resources (e.g., special-status species, jurisdictional drainages, nesting birds, etc.) within proposed impact areas, including composting area, generator-tie lines, staging areas, roads and access routes, stockpiling or marshaling areas, or temporary placement of spoils shall be delineated with stakes and/or flagging prior to construction to avoid sensitive biological resources where possible. Construction-related activities outside of the planned impact areas shall be avoided.
- c. Access roads shall not extend beyond the planned impact area. All vehicle traffic shall be contained within the planned impact areas or in previously disturbed areas. Where new access routes are required, the route will be clearly marked (i.e., flagged and/or staked) prior to construction.
- d. The project proponent/operator shall minimize the areas of disturbance. Parking areas, new roads, staging, and storage site locations shall be confined to the smallest areas possible.
- e. During construction, spoils shall be stockpiled in disturbed areas that lack native vegetation to the maximum extent practicable. Best Management Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (see Section 4.7, *Geology and Soils*, for more details on Stormwater Pollution Prevention Plan requirements). All detected erosion shall be remedied as described in the Erosion Control Plan of the Stormwater Pollution Prevention Plan. Spoils that have been stockpiled and inactive for greater than 10 days shall be inspected by a qualified biologist for signs of special-status wildlife before moving or disturbing the spoils.
- f. To prevent inadvertent entrapment of San Joaquin kit fox, American badgers, or other animals during construction, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks that are no less than 12 inches wide and secured at the top and placed a minimum of every 100 feet within the open trench. Covered and non-covered holes or trenches shall be thoroughly inspected for trapped animals by a qualified biologist or their biological monitor at the beginning and end of each day. Immediately before such holes or trenches are filled, they shall again be thoroughly inspected by trained staff approved by the retained qualified biologist for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow for their escape. If a listed species is trapped, the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife, as appropriate for the

species, and Kern County Planning and Natural Resources Department shall be contacted immediately.

- g. San Joaquin kit fox, burrowing owls, mammals, and nesting birds may use construction pipes, culverts, or similar structures for refuge or nesting. Therefore, all construction pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at the construction site for one or more overnight periods shall be covered in such a way as to exclude wildlife from entry. If this is not possible, straight pipes shall be inspected for wildlife before moving or capping. Any pipes of this size that cannot be seen through completely must be covered if left overnight.
- h. Any such pipes left overnight without being covered shall be thoroughly inspected by a qualified biologist or the designated biological monitor for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until a qualified biologist has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by a qualified biologist holding the appropriate handling permits from the resource agencies.
- i. No vehicle or equipment parked on the project sites shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own.
- j. Vehicular traffic to and from the project sites shall use existing routes of travel. Cross country vehicle and equipment use outside designated impact areas shall be prohibited.
- k. A speed limit of 15 miles per hour shall be enforced within the limits of the project. A speed limit of 10 miles per hour shall be enforced during nighttime periods.
- l. Fueling of equipment shall take place within existing roads. No refueling within or adjacent to drainages (within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired, as necessary.
- m. Workers shall be prohibited from bringing pets and firearms to the project sites and from feeding wildlife.
- n. Intentional killing or collection of any plant or wildlife species shall be prohibited.

- o. No rodenticides shall be used on the project sites.
- p. Fencing surrounding the active areas of the permit area will include small- mesh (1/4 inch diameter or smaller) exclusionary fencing installed from 6 inches below ground level to at least 24 inches above grade to discourage wildlife from accessing the work areas.

MM 4.3-4 (COM) The project proponent shall implement the following measures to avoid and/or minimize potential impacts to special-status plant species within the composting facility footprint:

- a. Within no more than 1 year prior to ground disturbance within any of the vegetated areas within Site A, as identified in the *Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project, Kern County, California* (McCormick Biological, Inc. 2020), as authorized by this approval, the project proponent shall retain a qualified botanist who shall conduct and document special-status plant surveys following the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* or those established by the California Native Plant Society.
- b. If the surveys identify special-status plants, the following measures shall be implemented:
 - 1. A 50-foot buffer shall be established around any occurrences of a special-status plant species, as designated by a qualified biologist, when feasible;
 - 2. In areas where it is not feasible to set up buffers, soil conservation will be implemented for areas known to support sensitive plant species. The soil will be stockpiled using straw waddles and a cover to prevent loss of topsoil by wind and soil erosion. The topsoil will be used for areas that will be temporarily disturbed and later restored;
 - 3. Dust control shall be implemented in areas that occur near the rare or listed plants to avoid disturbance to the natural photosynthetic process of the plants. The pooling of water shall be avoided as well; and
 - 4. Large equipment shall be washed at an off-site facility away from native habitat prior to entering the project location to prevent the spread of invasive plant species that may be within the equipment.
- c. If disturbance cannot be avoided, the project proponent shall consult with the California Department of Fish and Wildlife and other regulatory agencies to identify and implement approved measures to

effectively mitigate any potential impacts to less than significant, as appropriate.

MM 4.3-5 (COM) Project activities within the composting facility footprint shall attempt to avoid the vegetated portions of Site A, as identified in the *Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project, Kern County, California* (McCormick Biological, Inc. 2020), unless focused surveys for the detection of blunt-nosed leopard lizard, San Joaquin antelope squirrel, San Joaquin kit fox, giant kangaroo rat, and other special-status species identified as having the potential to occur in the project site are conducted. Focused surveys shall follow current agency-accepted protocols or, if agency protocols are not available, industry-accepted methods for the detection of each of the potentially occurring special-status species. Surveys shall be timed to optimize detection of each species, follow agency protocols, and allow the project proponent to coordinate with agencies as necessary depending on species detected.

MM 4.3-6 (COM) A preconstruction survey by the Lead Biologist or a qualified biologist approved by the Lead Biologist shall be conducted no more than 30 days and no less than 14 days prior to the commencement of any ground disturbance or site preparation within Site A, outside of the existing active landfill footprint (and in the case of the San Joaquin antelope squirrel, surveys shall be conducted between April 1 through September 30 when air temperatures are between 68 and 86 degrees Fahrenheit). If any evidence of occupation of that portion of the project site by listed or other special-status plant or animal species is observed, a buffer shall be established by a qualified biologist that results in sufficient avoidance to comply with applicable regulations. Even if sufficient avoidance can be established, the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted for further guidance and consultation on additional measures. The project proponent shall obtain any required permits from the appropriate wildlife agency. Copies of the preconstruction survey and results, as well as all permits and evidence of compliance with applicable regulations, shall be submitted to the Kern County Planning and Natural Resources Department. Additionally, any special-status species and/or natural communities detected during project surveys shall be reported to the California Natural Diversity Database.

The following no-disturbance buffer distances shall be established prior to consultation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife or commencement of any site preparation and/or construction activities:

- a. American badger potential den: 50 feet; known den: 100 feet; pupping den: contact the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife;

- b. San Joaquin kit fox: known and potential dens shall be avoided by 100- and 50-foot no-disturbance buffers, respectively. If San Joaquin kit fox are found occupying atypical (i.e., manmade structure) den sites, a 50-foot no-disturbance buffer shall be established and maintained around the occupied den structure, in accordance with the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (2011);
- c. Burrowing owl burrow outside of breeding season: as recommended by the *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Game [now California Department of Fish and Wildlife] 2012);
- d. Burrowing owl burrow during breeding season: as recommended by the *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Game [now California Department of Fish and Wildlife] 2012);
- e. Other protected nesting migratory bird nests during the breeding season: as recommended by a qualified biologist;
- f. San Joaquin coachwhip, coast horned lizard, and other special-status wildlife species: as recommended by a qualified biologist;
- g. Giant kangaroo rat, short-nosed kangaroo rat, and Tulare grasshopper mouse: small mammal burrows observed during preconstruction surveys should be avoided by a 50-foot avoidance buffer;
- h. Blunt-nosed leopard lizard: small mammal burrows observed during preconstruction surveys should be avoided by a 50-foot avoidance buffer. If blunt-nosed leopard lizard is found at any time within the project sites, consultation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife is required to discuss how to implement the project; and
- i. San Joaquin antelope squirrel: 50 feet. "Take" of San Joaquin antelope squirrel must be avoided unless appropriate authorization is obtained from California Department of Fish and Wildlife.

MM 4.3-7 (COM, BEF) If construction activities occur during the nesting season (March 1 to August 31) in any of the vegetated areas within the composting facility footprint identified in the *Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project, Kern County, California* (McCormick Biological, Inc. 2020) or in Site B, a qualified biologist shall conduct a preconstruction nesting bird survey to identify any active nests present within the proposed work area and a 250-foot buffer no more than 14 days prior to the onset of project activities. If active nests are observed, they

shall be avoided by an appropriate buffer distance as determined by a qualified biologist to avoid abandonment of the nest during incubation and chick rearing. The nest shall not be disturbed until the young have fledged or the nest has been abandoned as determined by the qualified biologist.

MM 4.3-8 (COM) A qualified biologist shall monitor all ground-disturbing activities that occur within 100 feet of any of the vegetated areas within the composting facility footprint identified in the *Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project, Kern County, California* (McCormick Biological, Inc. 2020). The purpose of the biological monitor is to assist with avoiding special-status species and to document compliance with these recommendations and any subsequent plans. A report of biological monitoring activity will be submitted quarterly during any quarter that ground disturbance occurs to the Kern County Planning and Natural Resources Department to document compliance with these measures.

MM 4.3-9 (COM) If new ground disturbance in the areas identified as annual grassland and/or *Atriplex polycarpa* alliance within the composting facility footprint as identified in the *Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project, Kern County, California* (McCormick Biological, Inc. 2020) cannot avoid small mammal burrows that may be occupied by blunt-nosed leopard lizard by a buffer distance of 50 feet, focused surveys following current California Department of Fish and Wildlife protocols for detection of blunt-nosed leopard lizard shall be conducted no more than 1 year prior to construction or project activities within 50 feet of any burrows or dens that could be occupied by blunt-nosed leopard lizard. The current survey protocol (California Department of Fish and Wildlife 2019) requires that a set pattern of surveys be completed over two sessions: adult (April 15 to July 15) and hatchling (August 15 to September 30).

If blunt-nosed leopard lizard is observed at any time, at a minimum, construction and other project activities shall avoid all occupied areas by a buffer distance of 250 feet, speed limits on the project site shall be reduced to 10 miles per hour, and the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted immediately. A Blunt-Nosed Leopard Lizard Avoidance Plan shall be prepared and submitted to the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife for review and concurrence.

MM 4.3-10 (COM) If any small mammal burrows are detected within the composting facility footprint that could be occupied by giant kangaroo rat, short-nosed kangaroo rat, or Tulare grasshopper mouse, nocturnal trapping following *Survey Protocol for Determining Presence of San Joaquin Kangaroo Rats* (U.S. Fish and Wildlife Service 2013b) shall be conducted by an appropriately authorized biologist holding an Endangered Species Act authorization and California Endangered Species Act Memorandum of Understanding for species that may be captured.

- a. If giant kangaroo rat is detected, all burrows potentially occupied by this species shall be avoided by a buffer distance of at least 50 feet unless the appropriate Endangered Species Act and California Endangered Species Act authorizations are obtained to allow project activities that have the potential to result in “take” of giant kangaroo rat.
- b. If any non-listed special-status species are detected, they shall be released to an offsite adjacent area at least 50 feet from planned activities. Release shall be accomplished using modified “soft release” methods, including creation of artificial burrows using hand auger or other method to create cover for the released individuals.

MM 4.3-11 (COM) The following measures are based on the recently updated 2012 California Department of Fish and Game [now California Department of Fish and Wildlife] *Staff Report on Burrowing Owl Mitigation* and shall be implemented to ensure potential effects on burrowing owl resulting from project implementation will be avoided and minimized to less-than-significant levels:

- a. A project Lead Biologist shall be on-site during all initial ground-disturbing activities within the approved composting facility footprint in potential burrowing owl habitat. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-disturbance surveys of the permanent and temporary impact areas, plus an ISO-meter (approximately 492-foot) buffer, to locate active breeding or wintering burrowing owl burrows no less than 14 days prior to initial ground-disturbing activities. The survey methodology will be consistent with the methods outlined in the *Staff Report on Burrowing Owl Mitigation* and will consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing. As each burrow is investigated, biologists will also look for signs of American badger and San Joaquin kit fox. Copies of the survey results shall be submitted to the California Department of Fish and Wildlife and Kern County Planning and Natural Resources Department.
- b. If burrowing owls are detected within the composting facility footprint, no ground-disturbing activities shall be permitted within the distances listed below in the table titled “Burrowing Owl Burrow Buffers,” unless otherwise authorized by the California Department of Fish and Wildlife. Burrowing owls shall not be moved or excluded from burrows during the breeding season.

Burrowing Owl Burrow Buffers

Location	Time of Year	Level of Disturbance		
		Low	Medium	High
Nesting sites	April 1 – August 15	200 meters	500 meters	500 meters
Nesting sites	August 16 – October 15	200 meters	200 meters	500 meters
Any occupied burrow	October 16 – March 31	50 meters	100 meters	500 meters

California Department of Fish and Game 2012

- c. If avoidance of active burrows is infeasible, the owls can be passively displaced from their burrows according to recommendations made in the 2012 *Staff Report on Burrowing Owl Mitigation*. Burrowing owls shall not be excluded from burrows unless or until the following circumstances occur:
 - 1. Occupied burrows shall not be disturbed during the nesting season unless a qualified biologist meeting the Biologist Qualifications set forth in the 2012 *Staff Report on Burrowing Owl Mitigation* verifies through noninvasive methods that either: (1) the owls have not begun egg-laying and incubation or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Burrowing owls shall not be moved or excluded from burrows during the breeding season.
 - 2. A Burrowing Owl Exclusion Plan shall be developed and approved by the applicable local California Department of Fish and Wildlife office and submitted to the Kern County Planning and Natural Resources Department. The plan shall include, at a minimum:
 - A. confirmation by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping;
 - B. the type of scope and appropriate timing of scoping to avoid impacts;
 - C. occupancy factors to look for and what will guide determination of vacancy and excavation timing (one-way doors shall be left in place 48 hours to ensure burrowing owls have left the burrow before excavation, visited twice daily, and monitored for evidence that owls are inside and cannot escape [i.e., look for sign immediately inside the door]);
 - D. how the burrow(s) will be excavated, including excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated and it can be determined that no owls reside inside the burrow);

- E. removal of other potential owl burrow surrogates or refugia on-site;
 - F. photographs of the excavation and closure of the burrow to demonstrate success and sufficiency;
 - G. monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take; and
 - H. how the impacted site will continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete.
- 3. Permanent loss of occupied burrow(s) and habitat is mitigated in accordance with the measures described below.
 - 4. Temporary exclusion is mitigated in accordance with the measures described below.
 - 5. Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their burrows sufficient to ensure take is avoided. Conduct daily monitoring for 1 week to confirm young of the year have fledged if the exclusion will occur immediately after the end of the breeding season.
 - 6. Excluded burrowing owls are documented using artificial or natural burrows on an adjoining mitigation site (if able to confirm by band resight).
- d. In accordance with the Burrowing Owl Exclusion Plan, a qualified wildlife biologist shall excavate burrows using hand tools. Sections of flexible plastic pipe or burlap bag shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow. Forty-eight hours after the installation of the one-way doors, the doors can be removed, and ground-disturbing activities can proceed. Alternatively, burrows can be filled to prevent reoccupation.
 - e. During ground-disturbing activities, monthly and final compliance reports shall be provided to the California Department of Fish and Wildlife, the Kern County Planning and Natural Resources Department, and other applicable resource agencies documenting the effectiveness of mitigation measures and the level of burrowing owl take associated with the proposed project.

- f. Should burrowing owls be found within the composting facility footprint, compensatory mitigation for lost breeding and/or wintering habitat shall be implemented on-site or off-site in accordance with the *Staff Report on Burrowing Owl Mitigation* guidance and in consultation with the California Department of Fish and Wildlife. At a minimum, the following recommendations shall be implemented:
1. Restore temporarily disturbed habitat, if feasible, to pre-project conditions, including decompacting soil and revegetating. If restoration is not feasible, then the project proponent shall implement “b” below.
 2. Mitigate permanent impacts to nesting, occupied, and satellite burrows and/or burrowing owl habitat such that the habitat acreage, number of burrows, and burrowing owls impacted are replaced based on a site-specific analysis and shall include permanent conservation of similar vegetation communities (grassland, scrub lands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals. Conservation shall occur in areas that support burrowing owl habitat and can be enhanced to support more burrowing owls.
 3. Permanently protect mitigation land through a conservation easement deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a California Department of Fish and Wildlife-approved burrowing owl conservation bank, the project proponent/operator may purchase available burrowing owl conservation bank credits.
 4. Develop and implement a mitigation land management plan in accordance with the *Staff Report on Burrowing Owl Mitigation* guidelines to address long-term ecological sustainability and maintenance of the site for burrowing owls.
 5. Fund the maintenance and management of mitigation land through the establishment of a long-term funding mechanism, such as an endowment.
 6. Habitat shall not be altered or destroyed, and burrowing owls shall not be excluded from burrows, until mitigation lands have been legally secured; are managed for the benefit of burrowing owls according to California Department of Fish and Wildlife-approved management, monitoring, and reporting plans; and the endowment or other long-term funding mechanism is in place or security is provided until these measures are completed.

7. Mitigation lands shall be on, adjacent to, or in proximity to the impact site, where feasible, and where habitat is sufficient to support burrowing owls.
8. Consult with the California Department of Fish and Wildlife when determining off-site mitigation acreages.

MM 4.3-12 (COM) Survey protocols and den definitions should be consistent with the U.S. Fish and Wildlife Service *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (2011) or current agency protocols and requirements. Den buffer zones and excavation procedures should be consistent with the U.S. Fish and Wildlife Service recommendations. Should San Joaquin kit fox dens be found, protection measures should include the following:

- a. Potential and known San Joaquin kit fox dens (as defined in the U.S. Fish and Wildlife Service recommendations) shall be avoided by 50-foot and 100-foot buffers, respectively, if possible. If it is not possible to avoid potential or known San Joaquin kit fox dens, then the procedures specified below that pertain to San Joaquin kit fox shall be followed.
- b. Potential dens with no sign of San Joaquin kit fox presence shall be monitored for 4 nights using tracking material and/or an infrared camera. Potential dens may be excavated once it is confirmed that no San Joaquin kit fox is present. If San Joaquin kit fox or sign of San Joaquin kit fox is observed at any time during the monitoring or excavation of a potential den, its status becomes known, and procedures described below for treatment of known dens must be implemented.
- c. If a known den cannot be avoided by project activities, U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted regarding Endangered Species Act and California Endangered Species Act compliance, respectively. Should it be determined that Endangered Species Act and California Endangered Species Act authorization is not required, unavoidable known San Joaquin kit fox dens may be excavated under the supervision of a Kern County-approved qualified biologist, provided that each are shown through standard monitoring methods (see below) to be unoccupied. U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife shall be contacted no less than 30 days prior to implementation of these measures to provide each agency the opportunity to provide guidance regarding the potential destruction of known San Joaquin kit fox dens.
 1. Known San Joaquin kit fox dens shall be monitored by placing tracking material, or other means of detecting activity (e.g.,

- camera stations, etc.), at each den entrance and checking each morning until no San Joaquin kit fox activity is recorded for 4 consecutive days.
2. A qualified biologist shall be present during all San Joaquin kit fox den monitoring and excavations.
 3. At a minimum, the U.S. Fish and Wildlife Service recommendations shall be implemented if Endangered Species Act and California Endangered Species Act take permits are issued for the project.
- d. If a San Joaquin kit fox natal/pupping den cannot be avoided by 500 feet, the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted for further guidance.
 - e. Other avoidance and minimization measures, not described above, may be employed to preserve denning opportunities and protect wildlife, as needed. For example, San Joaquin kit fox potential dens within the recommended buffer may be temporarily blocked after appropriate monitoring and documentation of vacancy to discourage San Joaquin kit fox from denning during construction or other activities. Once construction activities are completed, blocked dens in buffer areas shall be reopened.

MM 4.3-13 (COM) If any Federally or State-listed species cannot be avoided by project activities conducted within the composting facility footprint, appropriate Endangered Species Act and California Endangered Species Act authorizations for the subject species shall be obtained. At a minimum, these authorizations should include the following avoidance and minimization measures:

- a. Avoidance and minimization measures intended to minimize the impacts to listed species;
- b. Capture and relocation of individual listed small mammals through implementation of a Mortality Reduction and Relocation Plan to be approved by either U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, or both in the case of a dually listed species;
- c. Compensation for habitat disturbance at ratio of no less than 3:1 for permanent impacts and 1.1:1 for temporary impacts to listed species habitat; and
- d. Provision of funding for preservation and management of compensation lands in perpetuity.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-1 (COM, BEF, LDF), MM 4.3-1 (COM, BEF) through MM 4.3-3 (COM, BEF), MM 4.3-4 (COM) through MM 4.3-6 (COM), MM 4.3-7 (COM, BEF), and MM 4.3-8 (COM) through MM 4.3-13 (COM), impacts would be less than significant.

Impact 4.3-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in regional or local plans, policies, regulations, or by the USFWS or CDFW.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

No riparian habitat or other sensitive natural community identified in regional or local plans, policies, or regulations, or by the USFWS or CDFW, are located within or adjacent to Sites A or B. The USFWS NWI Mapper identified an ephemeral drainage located immediately northwest of Site A; however, this feature has been previously disturbed and does not support riparian vegetation. Therefore, the project would have no impact on riparian habitat or other sensitive natural communities identified in regional or local plans, policies, or regulations, or by the USFWS or CDFW.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.3-3: 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.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

As discussed under Impact 4.3-2, no riparian or wetland habitat is present within or adjacent to Sites A or B. Therefore, the project would not have a substantial adverse effect on Federally protected wetlands. No impact would occur as a result of the proposed project.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.3-4: 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.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The project sites are largely disturbed, and many areas are devoid of vegetation. The sites are bifurcated by Holloway Road and include an equipment storage area (Site B) and a landfill facility (Site A). The majority of Site B is enclosed by an existing barbed wire fence. A new fence would be installed along a portion of the southeast corner of Site B associated with Phase 2 project activities. The new fence would extend 6 feet in height and would be comprised of approximately 1.6 feet of wire mesh and 2.3 feet of barbed wire. The mesh fencing material may prohibit some wildlife from moving into the project sites. However, given the relatively minimal amount of new fencing that would be installed and the considerable amount of open space available directly west of Site A, the new fencing would not substantially affect the movement of wildlife species in the area. Although the project sites may still be accessible and traversed by some species at different times, the sites do not provide continuous habitat linkages between regionally significant habitat patches and are not considered to function as a wildlife corridor. Additionally, Mitigation Measure MM 4.3-3(p) (COM, BEF) would require perimeter fencing installed during operations to be made wildlife friendly by raising the bottom up 5 to 7 inches from the ground and knuckling back the bottom edge to allow movement of SJKF.

Lighting from the project sites could potentially affect movement of wildlife around the project sites. However, all lighting installed as a part of the project would comply with the Kern County Dark Skies Ordinance and would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties, as stipulated by Mitigation Measure MM 4.1-1 (COM, BEF, LDF), included in Section 4.1, *Aesthetics*. This would help reduce impacts to wildlife moving through the area. Therefore, the project is not expected to adversely impact wildlife movement and impacts would be less than significant with mitigation.

Mitigation Measures

Implement Mitigation Measures MM 4.1-1 (COM, BEF, LDF) (see Section 4.1, *Aesthetics*, for mitigation measures) and MM 4.3-3 (COM, BEF).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-1 (COM, BEF, LDF) and MM 4.3-3, impacts would be less than significant.

Impact 4.3-5: The project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The proposed project could result in impacts to special-status species, which would conflict with local policies provided in the Land Use, Open Space, and Conservation Element of the *Kern County General Plan*. Implementation of Mitigation Measures MM 4.3-1 (COM, BEF) through MM 4.3-3 (COM, BEF), MM 4.3-4 (COM) through MM 4.3-6 (COM), MM 4.3-7 (COM, BEF), and MM 4.3-8 (COM) through MM 4.3-13 (COM) would reduce potential project-related impacts to special-status species to less-than-significant levels. In addition, lighting from the project sites could potentially affect wildlife around the project sites. All lighting installed as a part of the project would comply with the Kern County Dark Skies Ordinance and would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties as stipulated in Mitigation Measure MM 4.1-1 (COM, BEF, LDF), included in Section 4.1, *Aesthetics*. Thus, with implementation of identified mitigation measures, the project would not conflict with local policies or ordinances protecting biological resources.

Mitigation Measures

Implement Mitigation Measures MM 4.1-1 (COM, BEF, LDF) (see Section 4.1, *Aesthetics*, for mitigation measures), MM 4.3-1 (COM, BEF) through MM 4.3-3 (COM, BEF), MM 4.3-4 (COM) through MM 4.3-6 (COM), MM 4.3-7 (COM, BEF), and MM 4.3-8 (COM) through MM 4.3-13 (COM).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-1 (COM, BEF, LDF), MM 4.3-1 (COM, BEF) through MM 4.3-3 (COM, BEF), MM 4.3-4 (COM) through MM 4.3-6 (COM), MM 4.3-7 (COM, BEF), and MM 4.3-8 (COM) through MM 4.3-13 (COM), impacts would be less than significant.

Impact 4.3-6: The project would conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved State, regional, or local HCP.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

There is no adopted HCP, natural community conservation plan or other approved State, regional, or local HCP protecting biological resources on the project sites. The KCVFHCP is a proposed HCP and has not been approved by the County or resource agencies. Therefore, KCVFHCP does not constitute an adopted HCP and the project is not required to analyze conflicts with the KCVFHCP. The project would not conflict with the provisions of an adopted HCP, natural community conservation plan, or other approved State, regional, or local HCP, and no impact would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative Setting

The geographic scope for cumulative impacts to biological resources considers projects or other activities within the greater Kern County area. Section 3.8, *Cumulative Effects Overview*, of this EIR discusses cumulative projects near the project (**Table 3-15, Cumulative Projects List**, in Chapter 3, *Project Description*, lists specific projects considered in the cumulative impact analysis). Analysis of cumulative impacts includes considering the entirety of impacts that the cumulative projects and other actions discussed in Section 3.8, *Cumulative Effects Overview*, would have on biological resources. This geographic scope of analysis is appropriate because, although impacts of the project are primarily localized to the impact areas, loss of vegetation types or fragmentation of wildlife corridors could combine with similar impacts of other projects beyond these limited impact areas.

Impact 4.3-7: The project would contribute to cumulative biological resource impacts.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The proposed modifications to the landfill facility's CUP would not result in the loss of habitat or other cumulatively considerable biological resource impacts. Similarly, construction of the proposed bioenergy facility would be within existing developed and disturbed areas and would not result in the loss of habitat or other cumulatively considerable biological resource impacts. However, as discussed in Section 4.3.4, *Impacts and Mitigation Measures*, construction and operation of the proposed composting facility on portions of Site A that have naturally revegetated due to lack of recent activity may result in the loss of habitat for special-status species such as SJKF, burrowing owl, and BNLL. This loss would contribute to the regional cumulative loss of California associated wildlife habitat, including foraging and nesting habitat for special-status species and nesting birds.

As provided in **Table 3-15, Cumulative Projects List**, in Chapter 3, *Project Description*, three cumulative projects similar to the proposed project are proposed within the greater Kern County area. The first cumulative project involves the expansion of an existing solid waste facility located approximately 8 miles west of the City of Shafter. The second cumulative project is located south of the unincorporated Town of McKittrick and involves expansion of an existing Class II nonhazardous oilfield waste landfill facility. The third cumulative project is located approximately 7.6 miles east of the unincorporated community of Buttonwillow and involves the expansion of an existing hazardous waste facility. These developments, as well as

other development in the County, could further reduce availability of potentially suitable habitat for special-status and common plants and wildlife, fragment wildlife corridors, contribute to construction-related impacts, and displace special-status and common wildlife.

Given the proposed cumulative projects in the San Joaquin Valley, the project, when combined with other projects, would have an incremental contribution to cumulative loss of foraging and nesting habitat for special-status species. Implementation of mitigation measures would reduce the project's contribution to potential impacts to biological resources to less-than-significant levels on the project-level scale. However, when combined with other related development projects proposed throughout the County, the cumulative impact of the project would be significant and unavoidable.

Mitigation Measures

Implement Mitigation Measures MM 4.1-1 (COM, BEF, LDF) (see Section 4.1, *Aesthetics*, for mitigation measures), MM 4.3-1 (COM, BEF) through MM 4.3-3 (COM, BEF), MM 4.3-4 (COM) through MM 4.3-6 (COM), MM 4.3-7 (COM, BEF), and MM 4.3-8 (COM) through MM 4.3-13 (COM).

Level of Significance after Mitigation

Despite implementation of Mitigation Measures MM 4.1-1 (COM, BEF, LDF), MM 4.3-1 (COM, BEF) through MM 4.3-3 (COM, BEF), MM 4.3-4 (COM) through MM 4.3-6 (COM), MM 4.3-7 (COM, BEF), and MM 4.3-8 (COM) through MM 4.3-13 (COM), cumulative impacts to special-status wildlife species would be significant and unavoidable.

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4.4.1 Introduction

This section of the Environmental Impact Report (EIR) provides contextual background information for cultural resources in the project area, including the area's prehistoric, ethnographic, and historical settings. This section also summarizes the results of a cultural records search conducted for the project, analyzes the project's potential impacts to cultural resources, and identifies mitigation measures to address adverse impacts, where applicable.

This section is based on Cultural Resources Records Search 19-307, dated August 6, 2019, provided in Appendix D of this EIR. In addition, Native American Consultation was conducted by Kern County staff in accordance with Assembly Bill (AB) 52.

Cultural Resource Concepts and Terminology

For the purposes of the California Environmental Quality Act (CEQA), the term "cultural resources" generally refers to prehistoric and historical archaeological sites and the built environment. Cultural resources can also include areas determined to be important to Native Americans.

Key cultural resources terms used in this section are defined as follows:

- **Alluvium:** A fine-grained fertile soil consisting of mud, silt, and sand deposited by flowing water on floodplains, in riverbeds, and in estuaries.

- **Archaeological Site:** An archaeological site is defined as the place or places where the remnants of a past culture survive in a physical context that allows for the interpretation of these remains. Archaeological remains usually take the form of artifacts (e.g., fragments of tools, vestiges of utilitarian, nonutilitarian objects), features (e.g., remnants of walls, cooking hearths, midden deposits), and ecological evidence (e.g., pollen remaining from plants that were in the area when the activities occurred).
 - **Prehistoric archaeological sites** generally represent the material remains of Native American groups and their activities dating to the period before European contact. In some cases, prehistoric sites may contain evidence of trade contact with Europeans.
 - **Ethnohistoric archaeological sites** are defined as Native American settlements occupied after the arrival of European settlers in California.
 - **Historic archaeological sites** reflect activities during the Historic period.

- **Artifact:** An object that has been made, modified, or used by a human being.

- **Cultural Resource:** Expressions of human culture and history in the physical environment. Cultural resources may include archaeological sites, buildings, structures, objects, districts, works of art, architecture, and natural features that were important in past human events. They may consist of physical remains, but also may include areas where significant human events occurred, even though evidence of the events no longer remains. Cultural resources also include places that are considered to be of traditional cultural or religious importance to social or cultural groups.
- **Cultural Resources Survey Area:** All areas of potential permanent and temporary project impacts.
- **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. In 1772, Commander Don Pedro Fages was the first European to enter the desert of Kern County, initiating the historic period in the project study area.
- **Historical Resource:** Used for the purposes of CEQA and defined in the State CEQA *Guidelines* (Section 15064.5) as: (1) a resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR); (2) a resource included in a local register of historical resources, as defined in Public Resources Code (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 10,000 years ago at the end of the Pleistocene.
- **Isolate:** An isolated artifact or small group of artifacts that appear to reflect a single event or activity. Because isolates may lack identifiable context, and may not have the potential to add important information about a region, culture, or person, they are generally not considered under CEQA to be historical or unique archaeological resources (CEQA Statute Section 21083.2 and State 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.
- **Prehistoric Period:** The era prior to 1772. The later part of the prehistoric period is also referred to as the protohistoric period in some areas, which marks a transitional period during which native populations began to be influenced by European presence resulting in gradual changes to their lifeways.
- **Quaternary Age:** The most recent of the three periods of the Cenozoic Era. It follows the Tertiary Period, spanning 2.588 ± 0.005 million years ago to the present. The Quaternary includes two geologic epochs: the Pleistocene and the Holocene Epochs.
- **Stratigraphy:** The natural and cultural layers of soil that make up an archaeological deposit, and the order in which they were deposited relative to other layers.
- **Tribal Cultural Resource:** These are defined in AB 52 as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources (PRC Section 21074 (a)(1)).
- **Unique Archaeological Resource:** This term is used for the purposes of CEQA and is defined in the State CEQA *Guidelines* (Section 15064.5) 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, 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.

4.4.2 Environmental Setting

As described in Chapter 3, *Project Description*, the project site is comprised of two sites— Sites A and B. Site A is a former surface mine that was converted into a Class III non-hazardous industrial waste landfill in 1997. Site A is adjacent to the southern boundary of an area subject to gypsum mining operations associated with the H.M. Holloway Gypsum Mine. Site B is within an existing equipment staging and storage yard for the mine, within approximately 0.2 mile of the mine and immediately east of Holloway Road.

The project sites are located within the San Joaquin Valley, which is bounded by the Sacramento-San Joaquin River Delta to the north, the Sierra Nevada to the east, the Tehachapi Mountains to the south, and the Pacific Coast Range to the west. The western slope of the Sierra Nevada Mountains is the source for rivers and streams that cross the San Joaquin Valley.

The project sites are located along the west flank of the Lost Hills Oil Field in a rural, undeveloped area of northwestern Kern County. Land uses surrounding the project sites generally include undeveloped land, agriculture, and mining/resource extraction. The sites are relatively flat and slope gently to the southeast; elevations on the project sites are generally within the 425-foot contour on the Antelope Plain, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. The project sites are entirely comprised of previously disturbed land; no riparian or wetland habitat exists within or immediately adjacent to the project sites.

Ethnographic Setting

The project area lies within the territory of the Southern Valley Yokuts. At the time of initial European contact, the Yokuts comprised 40 to 60 named subgroups, or tribelets, that inhabited the San Joaquin Valley and the foothills of the western slope of the Sierra Nevada (Arkush 1993:620). Ethnographers have traditionally divided the Yokut culture into Northern Valley, Southern Valley, and Foothills divisions, based on geography. The majority of the following information is excerpted from Wallace (1978), except where otherwise noted.

The territory of the Southern Valley Yokuts included Tulare, Buena Vista, and Kern Lakes; their connecting sloughs; and the lower portion of the Kings, Kaweah, Tule, and Kern Rivers. The southern San Joaquin Valley received only 5 to 10 inches of rain annually, but drainages on the valley's eastern flank were well watered by snowmelt from the Sierra Nevada Mountains, which created extensive swamps and marshlands that provided an enormous variety and abundance of wildlife and aquatic flora. This abundance of subsistence resources allowed the Yokuts to enjoy greater material wealth and sedentary lifestyle than most other ethnographically documented groups.

The Southern Valley Yokuts' diet was diverse and relied on fishing, hunting waterfowl, and collecting shellfish, roots, and seeds. Most of their region was treeless except for the cottonwoods, sycamores, and willows that lined the river channels and sloughs. Oaks did not extend very far onto the valley floor and, therefore, acorns were not readily available. Acorns and pine nuts, however, were obtained through trade with neighboring groups. Southern Valley Yokuts pursued small game but rarely ventured into the open country to capture antelope or elk. However, they did opportunistically hunt larger mammals when they came to the lakes and sloughs for water. Arkush (1993) believes that the valley's abundant resources allowed some Yokut groups to intermittently acquire food surpluses, which allowed them to develop simple surplus economies without the benefit of domesticated plants or animals.

The Yokuts were extremely active traders of asphaltum, shells, obsidian, animal skins, and baskets, and there is evidence that some Yokut individuals were professional traders (Arkush 1993:623). Marine shells were secured via trade with coastal peoples and used for currency and personal adornment. This regular contact with neighboring and distant groups, along with relative sedentism, craft specialization, and a surplus economy, allowed the Yokuts political and social organization to become more complex than most other California native groups.

Single-family residences were constructed of stick frames that were covered with mats made from tule reeds. Some groups, using the same materials, built distinctive long, steep-roofed

communal houses that could shelter 10 or more families. Additionally, each village had a communally-owned sweathouse. The men did their daily sweating and occasionally slept there.

Tule, which was abundant along the river channels, provided the basis for their highest technological skill—basket weaving. Yokut baskets varied in shape and use and included bowl-shaped cooking containers, conical burden baskets, flat winnowing trays, seed beaters, and a unique-necked water bottle. Canoe-shaped rafts that could hold six people and their belongings were constructed of dried tules, which enabled efficient travel and trade along waterways. In contrast, wood and stone crafts were relatively undistinguished, and finished items made from these materials were often obtained by trade.

The Yokuts were divided into self-governing local groups or tribelets, each with a distinct dialect and territory and averaging about 300 members in size (Kroeber 1925:474). In most cases, each tribelet occupied several settlements, one of which was a relatively large, dominant village led by a central chief. Captains or sub-chiefs often ruled the smaller satellite settlements. These offices were usually attainable only through patrilineal inheritance (Arkush 1993:622; Gayton 1945:417). Generally, Yokut groups were peaceful, but occasional warfare did break out. Fighting occurred on a small scale and very little ritual was attached to warfare.

The initial contact between the Yokuts and the Spaniards occurred in the fall of 1772, when a small military party led by Captain Pedro Fages crossed the Tejon Pass into the southern San Joaquin Valley in search of Spanish deserters. At this time, Fages visited the village of Tulamniu, on the northwest shore of the Buena Vista Lake (Arkush 1993:623). Over the next several decades, only a small number of Southern Valley Yokuts came under the control of the coastal Franciscan missionaries; however, significant impacts to their culture resulted from infiltration of natives who had escaped from the missions. Foreign practices introduced by these runaways contributed to the erosion of traditional Yokut lifeways. Complete cultural breakdown and near-total disappearance of native peoples from the San Joaquin Valley came with the annexation of California by the United States and the resulting rapid increase in Euro-American populations. Because of the early and rapid decimation of the Southern Valley Yokuts, and the rapid collapse of their culture, there is relatively little published literature that describes them, and ethnographic descriptions obtained from aged informants is incomplete. However, it is clear that some Yokuts remained in the area, as evidenced by limited information gleaned from multiple sources.

Today, some Southern Valley Yokuts continue to reside in the area, with reservations established in 1921 at Santa Rosa Rancheria and Table Mountain Rancheria in 1916. The Carrizo Plain contains sites of particular religious significance for the Southern Valley Yokuts and tribe members continue to visit the rock art sites located within the Carrizo Plain National Monument.

Prehistoric Setting

Despite decades of archaeological research in the San Joaquin Valley, the prehistory of the region remains poorly understood. A large body of literature is devoted to individual sites within the region, but for the most part, it has not yet been synthesized. In addition, as Riddell (2002:95) suggested, up to 90% of all the sites in the southern San Joaquin Valley—including

“most of the large, significant and important village sites”—have been destroyed by agricultural development and erosion. Nevertheless, archaeological assemblages within the San Joaquin Valley show significant variation, reflecting influences from both the Sacramento-San Joaquin Delta area and southern California (Moratto 1984:185–189).

Paleo-Indian Period (11,500–8550 B.C.)

Human occupation in central California dates to at least the terminal Pleistocene, or almost 12,000 years ago, and some of the most substantial evidence from this period has been found in the southern portion of the San Joaquin Valley. The primary time marker for sites dating to this period is the fluted and basally thinned projectile point, which appears to be limited to late Pleistocene and very early Holocene sites. Near the proposed project area, fluted points have been collected from surface sites on the Pleistocene shores of Buena Vista, Kern, and Tulare Lakes. Most Paleoindian period sites in California represent the remains of single-use encampments, and their assemblage of temporally diagnostic artifacts is generally limited to only one or two fluted points.

Lower Archaic (ca. 8550–5550 B.C.)

Like the Paleoindian period, occupation of central California and the San Joaquin Valley during the Lower Archaic is largely evidenced by isolated finds. The Lower Archaic period is marked by large, heavy stemmed points, which has led many researchers to believe that subsistence during this period centered on hunting artiodactyls. Rosenthal et al. (2007) demonstrate that the absence of plant processing equipment in valley assemblages during this period is not reflected in the adjoining Sierra Nevada and Coast Range foothills, where sites have been found containing abundant milling equipment. These differences among assemblages at different elevations may point to the beginnings of a seasonal round, where populations occupied the lower elevations of the valley in the winter months and shifted to higher elevations to exploit plant resources during the spring and summer. Alternatively, these differences may reflect the initial manifestations of the valley floor and foothill adaptations that would become distinct cultural traditions during the Middle Archaic.

Middle Archaic (ca. 5550 B.C.–A.D. 550)

Variety in diet composition gradually increased among Middle Archaic populations. Initially, this diversification took the form of an increased emphasis on seed processing along with continued hunting and some fishing. Later, a shift to a greater reliance on acorns and pine nuts as a dietary staple is evidenced by an increase in bedrock mortars and pestles, which are better suited to crushing and grinding acorns, along with a decrease in handstones and metates, which were primarily used for grinding wild grass grains and seeds (Moratto 1984:209–210). Cobble mortars also saw increased use during this period, as did wooden and hopper mortars. The frequent occurrence of dart points in Middle Archaic assemblages demonstrates that hunting remained an important dietary component.

Upper Archaic (550 B.C.–A.D. 1100)

The Upper Archaic period is evidenced by several changes in subsistence, foraging, and land use patterns that begin to resemble those known from Historic-period Native American groups in the area. There was a substantial increase in the intensity of subsistence exploitation, including fishing, hunting, and gathering (particularly acorns), that correlates directly with an increase in population growth during this period (Moratto 1984:211–214). Economies emphasized resources that could be harvested and processed in bulk, such as acorns, salmon, and shellfish (Rosenthal et al. 2007:156). The period is characterized by shell beads and ornaments, stone beads, clamshell disk beads, tubular stone smoking pipes, and arrow-shaft straighteners. Shaped, flat-bottomed bowl mortars and cylindrical pestles are common. There is an increase in sedentism, accompanied by firm establishment of territorial boundaries, while networks of obsidian and shell bead exchange networks expanded.

Emergent Period (A.D. 1000–Historic)

The Emergent period saw the solidification of the cultural traditions and technologies that are known from the ethnographic present. This period is marked by the introduction of the bow and arrow, which first appears in the Central Valley region between about A.D. 1000 and 1300. In the San Joaquin Valley, villages developed along many side-streams of the foothills, as well as along the river channels at the valley's bottom (Rosenthal et al. 2007).

Historic Context

Early Exploration

Post-contact history for the state of California is generally divided into three periods: the Spanish period (1769–1822), the Mexican period (1822–1848), and the American period (1848–present). Although there were brief visits by Spanish, Russian, and British explorers from 1529 to 1769, the beginning of Spanish settlement in California occurred in 1769 with a settlement at San Diego—Mission Basilica San Diego de Alcalá. This was the first of 21 missions that the Franciscans established in Alta California between 1769 and 1823. The Mexican period began in 1822 when word of the successful revolution against the Spanish crown reached California. The Mexican period is marked by extensive land grants, most of which were in the interior of the state, and by exploration by American fur trappers west of the Sierra Nevada Mountains. With the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican–American War, California became a territory of the United States.

Kern County

The written history of Kern County began during the Spanish period. In 1772, Pedro Fages, acting governor of Alta California, became the first European to travel to the area. Beginning in today's Imperial Valley, Fages crossed Tejon Pass in the Tehachapi Mountains into Grapevine Canyon, and entered the San Joaquin Valley, all in pursuit of Spanish Army deserters (Hoover et al. 2002:126). Four years later, Francisco Garcés, a Franciscan friar, entered the area from the south. Garcés named a large river, Río de San Felipe, now known as the Kern River.

During the Mexican period, José Aguirre and Ignacio del Valle received a large land grant in 1843—the 97,616-acre Rancho Tejón. In the 1850s, General Edward Beale established a fort and reservation on Tejón ranch lands to protect local Native Americans from depredations by settlers. This outpost served as a military post and stage stop; it later housed a group of camels that Beale brought to the United States to serve in the Mojave Desert, known as the Camel Corps. Beale bought the Tejón Ranch in 1865 and retired there. The Tejon Ranch Company has since acquired many ranchos in the area, amassing in excess of a quarter million acres of land (Hoover et al. 2002:127). The buildings of Fort Tejón have been restored; the site is now Fort Tejon State Historic Park on Interstate 5 (I-5) in Grapevine Canyon.

John C. Fremont led an expedition into Kern County in 1845 and 1846. He brought an artist by the name of Edward Meyer Kern from Philadelphia to act as the topographer for the expedition. While crossing a river, Kern narrowly escaped drowning, and Fremont named the river after his colleague (Schmid 1999:192; Hoover et al. 2002:124).

Mining and Oil Production

Kern County was known for its gold production. Gold was discovered on the upper Kern River in 1853, bringing miners and settlers to the area. Kern County was established in 1866 with portions of Los Angeles and Tulare Counties being set aside to form the new county. It is California's third largest county, and the county seat was established at Havilah in 1866. Asbury Harpending, who made a fortune in gold mining along the Kern River, built a toll road from Bakersfield to Havilah. The county seat was moved from Havilah to Bakersfield in 1874 (Hoover et al. 2002:132).

Oil exploration, production, and use are inextricably woven into the history of California, and of Kern County in particular. The first known use of crude oil by the area's Euro-American population took place during the Spanish period. Large seeps along the west side of the San Joaquin Valley were known by travelers of El Camino Viejo, who used the oil to lubricate their wagon wheels (Hodgson 1993:7).

The first company to locate a producing oil well in the San Joaquin Valley was the Buena Vista Petroleum Company. The company was incorporated in February 1864 by Josiah Otis Lovejoy, an entrepreneur and former ship's captain from San Francisco, and began digging and drilling operations later that same year. The Buena Vista Company's headquarters were located at the old Temblor Ranch, and its first refinery (State Registered Landmark No. 504), located 7 miles from the headquarters and 10 miles west of present-day McKittrick, was designed to produce 5,000 gallons of "burning oil," or kerosene, per month (Burmeister 1972:1). During unusually wet years, the kerosene was transported by wagon to the shores of Tulare Lake and then sent by schooner down the San Joaquin River to Stockton and San Francisco. During dry years, the kerosene was hauled overland to the Port of San Luis Obispo and then transported by ship to San Francisco.

Aside from the petroleum industry, which was first developed in the 1890s, agriculture remained the dominant industry in the southern San Joaquin Valley through the twentieth century. Post-World War II irrigation projects, including the Friant-Kern Canal, brought water to the San Joaquin Valley on an even larger scale, and continued to encourage the development

of agriculture and related industries. Today, the San Joaquin Valley continues to be one of the most prominent agricultural and oil-producing regions of the country.

4.4.3 Existing Cultural Resources

Record Searches

To evaluate the proposed project's potential effects on significant cultural resources, an archival records search was conducted by the staff of the California Historical Resources Information System (CHRIS) located at the Southern San Joaquin Valley Information Center (SSJVIC), California State University, Bakersfield (Thomson 2019). The records search included a review of the National Register of Historic Places (NRHP) and the California Office of Historic Preservation (OHP) Archaeological Determinations of Eligibility and Historic Property Directory. In addition, California Historical Landmarks (California OHP 1990), California Points of Historical Interest (OHP 1992), and inventory and excavation reports filed with the OHP were reviewed.

The records search identified four previously conducted cultural resources studies within 0.5 mile of the proposed project, one of which overlapped a portion of Site A. These previously conducted cultural resources studies did not identify any prehistoric, historic, or other archaeological resources within 0.5 mile of the proposed project.

4.4.4 Regulatory Setting

Federal

Section 106 of the National Historic Preservation Act of 1966

Archaeological resources are protected through the National Historic Preservation Act (NHPA) of 1966, as amended (16 United States Code [USC] 470f), and its implementing regulation, Protection of Historic Properties (36 Code of Federal Regulations [CFR] Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979. Prior to implementing an "undertaking" (e.g., issuing a federal permit), NHPA Section 106 requires federal agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the State Historic Preservation Officer (SHPO) a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the NRHP. As indicated in NHPA Section 101(d)(6)(A), properties of traditional religious and cultural importance to a tribe are eligible for inclusion in the NRHP. Under the NHPA, a resource is considered significant if it meets the NRHP listing criteria at 36 CFR 60.4.

National Register of Historic Places

The NRHP was established by the NHPA as "an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation's historic resources and to indicate what properties should be considered for protection from destruction

or impairment” (36 CFR 60.2). The NRHP recognizes both historical period and prehistoric properties, including archaeological sites, that are significant at the National, State, and local levels.

To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria (U.S. Department of the Interior 1995):

- **Criterion A:** Are associated with events that have made a significant contribution to the broad patterns of our history;
- **Criterion B:** Are associated with the lives of persons significant in our past;
- **Criterion C:** Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- **Criterion D:** Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for NRHP listing (U.S. Department of the Interior 1995). In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as “the ability of a property to convey its significance” (U.S. Department of the Interior 1995). The NRHP recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity a property must possess several, and usually most, of these seven aspects, which include location, setting, design, materials, workmanship, feeling, and association. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from Federal and Tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. NAGPRA requires any Federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American Tribe claiming affiliation.

State

California Register of Historical Resources

Under PRC Section 5024.19(a), the CRHR was created in 1992 and implemented in 1998 as “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 historical 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 (SHRC) determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

- **Criterion 1:** It is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
- **Criterion 2:** It is associated with the lives of persons important in our past.
- **Criterion 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.
- **Criterion 4:** It has yielded, or may be likely to yield, information important in history or prehistory.

Furthermore, under PRC 5024.1, California Code of Regulations (CCR) Section 4852(c), a cultural resource must retain integrity to be considered eligible for the CRHR. Specifically, it must retain sufficient character or appearance to be recognizable as a historical resource and convey reasons of significance. Integrity is evaluated with regard to retention of such factors as location, design, setting, materials, workmanship, feeling, and association.

Typically, an archaeological site in California may be 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. However, archaeological sites may also be recommended eligible under CRHR Criteria 1, 2, and/or 3.

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 SHRC; 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:

- 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);
- It is associated with an individual or group having a profound influence on the history of California; or
- 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 SHRC 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:

- It is the first, last, only, or most significant of its type within the local geographic region (City or County);
- It is associated with an individual or group having a profound influence on the history of the local area; or
- It is a prototype of, or an outstanding example of, a period, style, architectural movement, or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State and is codified at PRC Section 21000 et seq. CEQA requires Lead Agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or archaeological resources.

Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. The State CEQA *Guidelines* (14 CCR Section 15064.5) recognize that a historical resource includes: (1) a resource listed in or determined to be eligible by the SHRC for listing in the CRHR; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript 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. The fact that a resource does not meet the three criteria outlined above does not preclude the Lead Agency from determining that the resource may be a historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a Lead Agency determines that an archaeological site is a historical resource, the provisions of CEQA Section 21084.1 and Section 15064.5 of the State 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 a historical resource would be materially impaired) in the significance of a historical resource, the Lead Agency must identify potentially feasible measures to mitigate these effects (State 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 State CEQA *Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is a unique archaeological resource. As defined in CEQA Section 21083.2, a "unique" archaeological resource is an archaeological artifact, object, or site for which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in State CEQA *Guidelines* Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the Lead Agency determines that a project would have a significant effect on unique archaeological resources, the Lead Agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required.

The State 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 (State CEQA *Guidelines* Section 15064.5(c)(4)).

Native American Heritage Commission

PRC Section 5097.91 established the Native American Heritage Commission (NAHC), the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. PRC Section 5097.98 specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a County Coroner.

Assembly Bill 52 and Related Public Resources Code Sections

Assembly Bill (AB) 52 was approved by California State Governor Edmund Gerald “Jerry” Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) define tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either included or determined to be eligible for inclusion in the CRHR or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a Lead Agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for the tribal cultural resources update to Appendix G of the State 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 PRC Section 21080.3.1 and has failed to provide comments to the Lead Agency, or otherwise failed to engage in the consultation process, or if the Lead Agency has complied with Section 21080.3.1(d) and the California Native American Tribe has failed to request consultation within 30 days, the Lead Agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American Tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the Lead Agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the Lead Agency publishes any information submitted by a California Native American Tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the Tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

California Public Records Act

California Public Records Act Sections 6254(r) and 6254.10 were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating 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 Native American Heritage Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency."

California Native American Graves Protection and Repatriation Act of 2001

Codified in 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. The Cal NAGPRA also provides a process for non-Federally recognized Tribes to file claims with agencies and museums for repatriation of human remains and cultural items.

California Health and Safety Code, Sections 7050 and 7052

California Health and Safety Code Section 7050.5 declares that, in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbance must cease, and the Kern 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

The 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

PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

Local

Kern County General Plan

The policies, goals, and implementation measures in the *Kern County General Plan* for cultural resources applicable to the project are provided below. The *Kern County General Plan* contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the *Kern County General Plan* are incorporated by reference.

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

1.10.3 – Archaeological, Paleontological, Cultural, and Historical Preservation

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

Implementation Measure K: Coordinate with the California State University, Bakersfield’s Archaeology Inventory Center.

Implementation Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.

Implementation 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.

Implementation Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.

4.4.5 Impacts and Mitigation Measures

This section evaluates the impacts to cultural resources that may occur during construction and operation of the project. It describes the potential archaeological and historic built environment resources located on and adjacent to the project sites 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, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

As described above, to evaluate the project’s potential effects on significant archaeological and historic built environmental resources, archival research was conducted. Based on this data and consideration of the past and existing uses within the project sites, impacts were analyzed according to CEQA significance criteria described below.

The proposed expansion of waste streams allowed for disposal at the landfill facility and the modification to the hours of operation would not result in new ground disturbance which could result in impacts related to cultural resources; therefore, the impact discussion below focuses on impacts associated with construction and operation of the proposed composting and bioenergy facilities.

Thresholds of Significance

The Kern County Environmental Checklist (updated in May 2019) identifies 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 on cultural resources. The Kern County Environmental Checklist states that a project would normally be considered to have a significant impact related to cultural resources if it would:

- a. Cause a substantial adverse change in the significance of a historical resource, as defined in State CEQA *Guidelines* Section 15064.5;
- b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA *Guidelines* Section 15064.5; or
- c. Disturb any human remains, including those interred outside of dedicated cemeteries.

According to the State CEQA *Guidelines* (14 CCR 15064.5), a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment (14 CCR 15064.5(b)). The State CEQA *Guidelines* further state that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings, such that the significance of a historic resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or adversely alter those physical characteristics of a historical resource that convey its historical significance and qualify it for inclusion in the CRHR or in a local register or survey that meet the requirements of PRC Sections 5020.1(k) and 5024.1(g).

All of the above impact thresholds are addressed in *Project Impacts and Mitigation Measures*, below. Impacts to tribal cultural resources have been addressed in Section 4.16, *Tribal Cultural Resources*, of this EIR.

Project Impacts and Mitigation Measures

Impact 4.4-1: The proposed project would cause a substantial adverse change in the significance of a historical or archaeological resource as defined in Section 15064.5.

eASP Composting Facility and Bioenergy Facility

As discussed in Section 4.4.2, *Environmental Setting*, the records search identified four previously conducted cultural resources studies within 0.5 mile of the proposed project, one of

which overlapped a portion of Site A. These previously conducted cultural resources studies did not identify any prehistoric, historic, or other archaeological resources within 0.5 mile of the proposed project.

The project sites are previously disturbed, currently support an active landfill facility (Site A) and an equipment staging and storage yard (Site B), and are subjected to ongoing ground-disturbing activities. All project activities would occur within existing disturbed and developed areas. It is unlikely that any surficial historical or archaeological resources are present within the project sites due to the extent of previous and ongoing ground-disturbing activities within the project sites. Ground-disturbing activities associated with construction and operation of the proposed composting facility would occur within existing disturbed soils and would not extend below natural grade; therefore, inadvertent impacts to unknown buried resources, if present, would not occur.

Nonetheless, the potential (albeit low) remains that ground-disturbing project activities associated with construction of the proposed bioenergy facility within Site B could result in the inadvertent discovery of a previously unidentified archaeological resource. Therefore, the potential for disturbance or destruction of one or more currently unknown culturally significant resources is considered potentially significant. Implementation of Mitigation Measures MM 4.4-1 (BEF), MM 4.4-2 (BEF), and MM 4.4-3 (BEF) would reduce this impact to less than significant.

Mitigation Measures

MM 4.4-1 (BEF) The project proponent/operator shall retain a Lead Archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior 2011), to carry out all mitigation measures related to archaeological and unique historical resources. The contact information for this Lead Archaeologist shall be provided to the Kern County Planning and Natural Resources Department prior to the commencement of any construction activities on-site. Further, the Lead Archaeologist shall be responsible for ensuring the following employee training provisions are implemented during implementation of the project:

- a. Prior to commencement of any ground-disturbing activities, the Lead Archaeologist in consultation with the Native American monitor(s) shall conduct a Cultural Resources Sensitivity Training for all personnel working on the project. A Cultural Resources Sensitivity Training Guide approved by the Lead Archaeologist shall be provided to all personnel. A copy of the Cultural Resources Sensitivity Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form. A copy of the proposed training materials shall be provided to the Kern County Planning and Natural Resources Department prior to the issuance of any grading or building permit.

The training shall include an overview of potential cultural resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the Lead Archaeologist 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.

- b. The project proponent/operator shall ensure all employees or on-site workers who have not participated in earlier Cultural Resources Sensitivity Trainings shall meet the provisions specified above.
- c. A copy of the Cultural Resources Sensitivity Training Guide/ Materials shall be kept on-site and available for all personnel to review and be familiar with, as necessary. It is the responsibility of the Lead Archaeologist to ensure all employees receive appropriate training before working on-site.

MM 4.4-2 (BEF) Prior to the issuance of any grading or building permit, the project proponent/operator shall submit a Cultural Resources Treatment Plan to the Kern County Planning and Natural Resources Department. The plan shall:

- a. Provide an overview of best management practices to be utilized during construction activities to ensure protection of cultural resources.
- b. Outline the process for evaluation of any unanticipated cultural discoveries during project construction activities.

MM 4.4-3 (BEF) During construction of the bioenergy facility, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground-disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as the Native American monitor. The Lead Archaeologist shall evaluate the significance of the resources and recommend appropriate treatment measures. If further treatment of the discovery is necessary, the Environmentally Sensitive Area shall remain in place until all work is completed. Per California Environmental Quality Act *Guidelines* 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 California Environmental Quality Act *Guidelines* Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the

Lead Archaeologist shall develop additional treatment measures in consultation with Kern County, which may include data recovery or other appropriate measures. Kern County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthened cultural resources if the resources are prehistoric or Native American in nature. Diagnostic archaeological materials with research potential recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist 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 Southern San Joaquin Valley Information Center at California State University, Bakersfield.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF), impacts would be less than significant.

Impact 4.4-2: The project would cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.

eASP Composting Facility and Bioenergy Facility

As discussed above under Impact 4.4-1, no prehistoric, historic, or other archaeological resources have been detected within or surrounding the project sites. Although there are no known historical or archaeological resources within the project sites, the potential exists (albeit low) for unknown buried archaeological deposits to be present within the project sites. Ground-disturbing activities associated with construction and operation of the proposed composting facility would occur within existing disturbed soils and would not extend below natural grade; therefore, inadvertent impacts to unknown buried resources, if present, would not occur.

Buried archaeological sites may be encountered during project-related ground disturbance within Site B during construction of the proposed bioenergy facility, although the risk is low given the highly disturbed nature of the project site. If unknown archaeological resources are discovered during project construction, significant impacts could occur. However, with implementation of Mitigation Measures MM 4.4-1 (BEF), MM 4.4-2 (BEF), and MM 4.4-3 (BEF), which require cultural resources sensitivity training for construction workers and appropriate treatment of unearthened archaeological resources during construction, potential impacts would be reduced to less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF), impacts would be less than significant.

Impact 4.4-3: The proposed project would disturb human remains, including those interred outside of dedicated cemeteries.

eASP Composting Facility and Bioenergy Facility

There is no indication from the archival research results that any particular location within the project sites have been used for human burial purposes in the recent or distant past. However, if human remains are inadvertently discovered during project construction activities, the human remains could be damaged or disturbed, which would be a significant impact. Mitigation Measure MM 4.4-4 (COM, BEF) contains procedures for recording and treating human remains that are discovered during implementation of the project and would ensure that any human remains encountered during project implementation would be properly treated, thus reducing impacts to a less-than-significant level.

Mitigation Measures

MM 4.4-4 (COM, BEF) If human remains are uncovered during ground-disturbing activities, the project proponent/operator shall immediately halt work, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in California Environmental Quality Act *Guidelines* Section 15064.5 (e)(1). At that time, the project proponent shall contact the Kern County Planning and Natural Resources Department regarding the find. If the Kern County Coroner determines that the remains are Native American, the coroner shall contact the Native American Heritage Commission, in accordance with California Health and Safety Code Section 7050.5 (c) and Public Resources Code Section 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per Public Resources Code 5097.98. Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the Most Likely Descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the coroner, nor of Native American origin, provisions of the California Health and Safety Code (Section 7100 et seq.) directing identification of the next of kin will apply. If any human remains are encountered, the Kern County Planning and Natural Resources Department shall be notified.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.4-4 (COM, BEF), impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative Setting

The geographic scope for cumulative impacts to cultural resources consists of all projects located within a 6-mile radius of the proposed project, as well as all similar (i.e., landfill, composting and/or bioenergy) projects within Kern County. Analysis of cumulative impacts takes into consideration the entirety of impacts that the projects discussed in Section 3.8, *Cumulative Effects Overview*, would have on cultural resources. This geographic scope of analysis is appropriate because the archaeological and historical resources within this area are expected to be similar to those in the project site because their proximity and similar environments, landforms, and hydrology would result in similar land use and thus, site types.

Impact 4.4-4: The proposed project would contribute to cumulative cultural resources impacts.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

Cumulative development in the county has the potential to result in cumulative impacts to cultural resources, if present within areas proposed for ground disturbance. As discussed previously, there are no known cultural resources of significance within 0.5 mile of the project sites. However, mitigation measures are included in this EIR to reduce potentially significant impacts to unknown archaeological resources that could be encountered during construction of the project. Implementation of Mitigation Measure MM 4.4-1 (BEF) requires cultural resources sensitivity training for construction workers for the bioenergy facility. Mitigation Measure MM 4.4-2 (BEF) requires the preparation of a Cultural Resources Treatment Plan to ensure protection of cultural resources during ground disturbance required for construction of the bioenergy facility. Mitigation Measure MM 4.4-3 (BEF) requires appropriate treatment of uncovered archaeological resources, including those that qualify as historical resources. Implementation of these mitigation measures would reduce the project's potential incremental impacts to historical and archaeological resources to a less-than-significant level and would ensure that project impacts to cultural resources would not cumulatively be considerable. Although project construction has the potential to disturb human remains if present within areas subject to ground disturbance, as do other projects in the cumulative study area, implementation of Mitigation Measure MM 4.4-4 (COM, BEF) would ensure that appropriate laws and protocols are followed with regard to identifying and handling remains, and would ensure that impacts associated with construction of the composting and bioenergy facilities are not cumulatively considerable.

Mitigation Measures

Implement Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF), impacts would be less than significant.

4.5.1 Introduction

This section of the Environmental Impact Report (EIR) analyzes the energy implications of the project, focusing on the following three energy resources: electricity, natural gas, and transportation-related energy (petroleum-based fuels). This section includes a summary of the project’s anticipated energy needs and conservation measures. Information in this section is primarily based on the *Lost Hills Environmental LLC – Composting and Waste to Energy Project Energy Assessment* (Bowman and Robertson 2020), provided in Appendix E of this EIR. In addition, the information found herein, as well as other aspects of the project’s environmental-related energy impacts, are discussed in greater detail elsewhere in this EIR, including in Chapter 3, *Project Description*, Section 4.2, *Air Quality*, and Section 4.7, *Greenhouse Gas Emissions*.

This section provides the content and analysis required by Public Resources Code (PRC) Section 21100(b)(3) and described in State CEQA *Guidelines* Appendix F (Association of Environmental Professionals [AEP] 2018). PRC Section 21100(b) and State CEQA *Guidelines* Section 15126.4 require that an EIR identify mitigation measures to minimize a project’s significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy. Appendix F states that the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F further states that a project’s energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the Project Description, Environmental Setting, and Impact Analysis portions of technical sections, as well as through mitigation measures and alternatives.

In late 2018, the California Natural Resources Agency finalized updates to the 2018 *CEQA Guidelines* (California Natural Resources Agency 2018). Appendix G was amended to now include the analysis of energy. Previously included in Appendix F, the Appendix G Checklist now provides questions asking if a project could result in wasteful energy resource consumption during project construction or operation and whether the project conflicts with state or local renewable energy or energy efficiency plans (California Natural Resources Agency 2018).

4.5.2 Environmental Setting

Kern County possesses a wealth of existing and potential energy resources. The County’s role as a major oil, natural gas, and electricity producer, along with its geographic position at the heart of California and on the boundaries of the State’s largest gas and electric utilities, gives the County’s future energy development Statewide significance.

Electricity

Electricity, a consumptive utility, is a manmade resource. The production of electricity requires the consumption or conversion of energy resources—which may include water, wind, oil, gas, coal, solar, geothermal, and nuclear resources—into energy. The delivery of electricity involves several 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 10 100-W bulbs were on for 1 hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is 1 million W, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is 1 billion Wh.

According to the U.S. Energy Information Administration (EIA), California used approximately 257,268 gigawatt hours of electricity in 2017 (EIA 2019a). The sector-specific breakdown for energy consumption in 2017 indicates that commercial uses utilized 46% of the state's electricity, followed by 35% for residential uses, and 19% for industrial uses (EIA 2019a). 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 electricity use per capita in the residential sector is lower than any other state except Hawaii (EIA 2018a).

Historically, California has relied heavily on oil- and gas-fired plants to generate electricity. Spurred by regulatory measures and tax incentives, however, California's electrical system has become more reliant on renewable energy sources, including cogeneration, wind energy, solar energy, geothermal energy, biomass conversion, transformation plants, and small hydroelectric plants. Unlike petroleum production, generation of electricity is usually not tied to the location of the fuel source and can be delivered great distances through the electrical grid. Electricity supply in California involves a complex grid of power plants and transmission lines located in the western United States, Canada, and Mexico. Almost 32% of the electricity used in California is imported from 11 other western states, as well as Canada and Mexico. The issue is complicated by market forces that have become prominent since 1998, when a new regulatory environment commonly referred to as "deregulation" took effect in California. Supply is further complicated by the fact that the peak demand for electricity is significantly higher than the off-peak demand. For example, in August 2004, peak electric demand—due in large part to hot weather—reached a record high of 44,497 MW, which is almost double the lowest demand period.

Retail electric service in Kern County is split between Pacific Gas and Electric (PG&E) and Southern California Edison (SCE). PG&E's retail service is concentrated in western Kern County while SCE serves the east County area. Refer to the interactive map of PG&E's retail electric service territory (PG&E 2020) and SCE's retail electric service territory (SCE 2020).

PG&E currently provides electricity to the majority of Central and Northern California, including the western half of Kern County and the project area. PG&E obtains its energy supplies from power plants and natural gas fields in Northern California, as well as from energy purchased outside its service area and delivered through high-voltage transmission lines and pipelines. Power is generated from various sources, including fossil fuel, hydroelectric, nuclear, wind, solar, biomass, and geothermal plants, and is fed into the electrical grid system serving its service territory. **Table 4.5-1, *Electric Power Mix Delivered to Retail Customers in 2018***, shows the electric power mix that was delivered to retail customers for PG&E compared to the Statewide power mix for 2018, the most recent year in which data is available.

Table 4.5-1 Electric Power Mix Delivered to Retail Customers in 2018¹

Energy Resource	2018 PG&E Power Mix			2018 California Power Mix ²
	Base Plan	100% Solar Choice	50% Solar Choice	
Eligible Renewable	39%	100%	69%	31%
<i>Biomass and Waste</i>	4%	0%	2%	2%
<i>Geothermal</i>	4%	0%	2%	5%
<i>Small Hydroelectric</i>	3%	0%	1%	2%
<i>Solar</i>	18%	100%	59%	11%
<i>Wind</i>	10%	0%	5%	11%
Coal	0%	0%	0%	3%
Large Hydroelectric ³	13%	0%	6%	11%
Natural Gas	15%	0%	7%	35%
Nuclear	34%	0%	17%	9%
Other	0%	0%	0%	<1%
Unspecified ⁴	0%	0%	0%	11%
TOTAL	100%	100%	100%	100%

¹ The figures above may not sum to 100% due to rounding.

² Percentages are estimated annually by the California Energy Commission (CEC) based on the electricity generated in California and net imports as reported to the Quarterly Fuel and Energy Report database and the Power Source Disclosure program.

³ A significant amount of energy generated by PG&E comes from clean, large hydroelectric power stations, which do not qualify as an eligible renewable resource under California law.

⁴ "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.

Source: PG&E 2019

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally-occurring reservoirs and delivered through high-pressure transmission pipelines. Natural gas provides almost one-third of the State's total energy requirements. As with electricity, natural gas usage in California varies substantially by the type of land use, type of construction materials, and the efficiency of all gas-consuming devices in a given building. PG&E and SoCalGas are the natural gas providers in Kern County, and a SoCalGas distribution line runs adjacent to project sites (SoCalGas 2020).

Natural gas consumption trends in Kern County between years 2000 and 2018 (most recent available) are shown in **Table 4.5-2, *Natural Gas Consumption in Kern County***.

Table 4.5-2 Natural Gas Consumption in Kern County

Year	Non-Residential ¹	Residential ¹	Total ^{1, 3}
2000	2,579.91	97.19	2,677.10
2005	2,468.37	100.61	2,568.98
2010	2,224.48	102.48	2,326.96
2015	2,672.93	88.87	2,761.80
2018 ²	2,361.83	93.70	2,455.53

¹ Values expressed in millions of therms.

² 2018 data is the most recent available

³ Totals may vary due to rounding

Source: California Energy Commission (CEC) 2020a

As shown in Table 4.5-2, Kern County has demonstrated a reduced reliance on natural gas, with generally reduced consumption rates for both residential and non-residential land uses over the past 18 years.

Transportation

According to the U.S. Energy Information Administration (USEIA), transportation accounts for 40% of California's total energy consumption (USEIA 2020). In 2019 California consumed approximately 15.3 billion gallons of gasoline and 3.1 billion gallons of diesel fuel (California Department of Tax and Fee Administration [CDTFA] 2020a, 2020b). Petroleum-based fuels currently account for more than 90% of California's transportation fuel use (California Energy Commission [CEC] 2020b). However, the State is now working on developing flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and greenhouse gas (GHG) from the transportation sector, and reduce vehicle miles traveled (VMT) (CEC 2020b). The CEC predicts that the demand for gasoline will continue to decline over the next 10 years, and there will be an increase in the use of alternative fuels (CEC 2020b). According to the California Air Resources Board (CARB) Emission Factors (EMFAC) 2017 Web Database, Kern County on-road transportation sources consumed approximately 445 million gallons of gasoline and 311 million gallons of diesel fuel in 2019 (CARB 2019).

4.5.3 Regulatory Setting

Federal

Federal Vehicle Standards

In response to the U.S. Supreme Court ruling discussed above, the Bush Administration issued Executive Order 13432 in 2007 directing the U.S. Environmental Protection Agency (USEPA), U.S. Department of Energy (USDOE), and U.S. Department of Transportation (USDOT) to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009 the National Highway Traffic Safety Administration

(NHTSA) issued a final rule regulating fuel efficiency for GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the USEPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010 President Obama issued a memorandum directing the USEPA, USDOE, USDOT, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the USEPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for light-duty vehicles with model years 2017–2025. The goal of the proposed standards was to achieve 163 grams/mile of carbon dioxide (CO₂) in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon (mpg) if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011 the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO₂ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the USEPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6% to 23% over the 2010 baselines.

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, and also included a new energy grant program for use by local governments in implementing energy-efficiency initiatives, as well as a variety of green building incentives and programs.

The Energy Independence and Security Act of 2007 facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25% greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200% greater efficiency for light bulbs, or similar energy savings, by 2020; and,

- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles-per-gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of the Energy Independence and Security Act address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and creating “green jobs.”

State

Senate Bill 1389

Senate Bill (SB) 1389 (PRC 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 (PRC Section 25301[a]). The 2016 Integrated Energy Policy Report provides the results of the CEC’s assessments of a variety of energy issues facing California, including energy efficiency, strategies related to data for improved decisions in the Existing Buildings Energy Efficiency Action Plan, building energy efficiency standards, the impact of drought on California’s energy system, achieving 50% renewables by 2030, the California Energy Demand Forecast, the Natural Gas Outlook, the Transportation Energy Demand Forecast, Alternative and Renewable Fuel and Vehicle Technology Program benefits updates, update on electricity infrastructure in Southern California, update on trends in California’s sources of crude oil, update on California’s nuclear plants, and other energy issues.

California’s Renewable Portfolio Standard

California’s Renewable Portfolio Standard (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33% of total retail sales by 2020 and 50% by 2030 (California Public Utilities Commission [CPUC] 2019).

In 2018, SB 100 further increased California’s RPS and required retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44% of retail sales by the end of 2024, 52% by the end of 2027, and 60% by the end of 2030, and that the CARB should plan for 100% eligible renewable energy resources and zero-carbon resources by the end of 2045. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. The CPUC’s responsibilities include: (1) determining annual procurement targets and enforcing compliance; (2) reviewing and approving each investor-owned utility’s renewable energy procurement plan; (3) reviewing contracts for RPS-eligible energy; and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy. Refer to Section 4.7, *Greenhouse Gas Emissions*, of this EIR for additional details regarding this regulation.

Assembly Bill 1493 (the Pavley Standard)

Assembly Bill (AB) 1493 (the Pavley Standard) required the CARB to adopt regulations to reduce GHG emissions from non-commercial passenger vehicles and light-duty trucks for model years 2009–2016. CARB obtained a waiver from the USEPA that allows for implementation of these regulations notwithstanding possible federal preemption concerns.

CARB's regulations for passenger vehicles (cars and light trucks) combine the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. This new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California. These standards would apply to all passenger and light-duty trucks used by customers, project employees, and deliveries to the project site.

Executive Order S-1-07 requires a 10% or greater reduction in the average fuel carbon intensity for transportation fuels in California regulated by CARB by 2020. In 2009, CARB approved the Low Carbon Fuel Standard (LCFS) regulations, which became fully effective in April 2010. In 2013, an ethanol company obtained a court order compelling CARB to remedy substantive and procedural defects under the California Environmental Quality Act (CEQA) of the LCFS adoption process (*POET, LLC v. CARB*). However, the court allowed implementation of the LCFS to continue pending correction of the identified defects. Consequently, this analysis assumes that the LCFS will remain in effect during construction and operation of the project.

In 2012 CARB approved the Advanced Clean Cars (ACC) program, a new emissions-control program for model years 2017–2025. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles. By 2025, when the rules will be fully implemented, new automobiles will emit 34% fewer global warming gases and 75% fewer smog-forming emissions.

The Sustainable Communities and Climate Protection Act of 2008, or SB 375, coordinates land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction mandates established in AB 32. As specifically codified in California Government Code Section 65080, SB 375 requires the Metropolitan Planning Organization (MPO) relevant to the project area (in this case, the Tulare County Association of Governments [TCAG]) to include a Sustainable Communities Strategy (SCS) in its Regional Transportation Plan (RTP) that will achieve GHG emission reduction targets set by CARB by reducing VMT from light-duty vehicles (i.e., passenger vehicles and light-duty trucks) through the development of more compact, complete, and efficient communities. For the area under TCAG's jurisdiction, including the project site, CARB adopted regional targets for reduction of mobile source-related GHG emissions by 5% for 2020 and by 10% for 2035.

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 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 and established a new climate pollution reduction target of 40% below 1990 levels by 2030 and include provisions to ensure that the benefits of State climate policies reach into disadvantaged communities. Refer to Section 4.8, *Greenhouse Gas Emissions*, of this Draft EIR for additional details regarding these regulations.

Low-Carbon Fuel Standard

The Low-Carbon Fuel Standard (LCFS), established in 2007 through Executive Order S-1-07 and administered by CARB, requires producers of petroleum-based fuels to reduce the carbon intensity of their products, starting with 0.25% in 2011 and culminating in a 10% total reduction in 2020. Petroleum importers, refiners, and wholesalers can either develop their own low-carbon fuel products, or buy LCFS credits from other companies that develop and sell low-carbon alternative fuels, such as biofuels, electricity, natural gas, and hydrogen.

California Air Resources Board

Advanced Clean Car Program

The Advanced Clean Cars emissions-control program was approved by CARB in 2012 and is closely associated with the Pavley regulations. The program requires a greater number of zero-emission vehicle models for years 2015 through 2025 to control smog, soot, and GHG emissions. This program includes the Low-Emissions Vehicle (LEV) regulations to reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emissions Vehicle regulations (ZEV) to require manufactures to produce an increasing number of pure ZEVs (meaning battery and fuel cell electric vehicles) with the provision to produce plug-in hybrid electric vehicles (PHEV) between 2018 and 2025.

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

In 2004 CARB adopted an Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling in order to reduce public exposure to diesel particulate matter emissions (Title 13 California Code of Regulations [CCR] Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

Regulation to Reduce Emissions of Diesel Particulate Matter, Nitrogen Oxides, 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 (NO_x), particulate matter less than 10 microns in diameter (PM₁₀), and particulate matter less than 2.5 microns in diameter (PM_{2.5}) emissions from existing diesel vehicles operating in California (13 CCR Section 2025). The phased regulation aims to reduce emissions by requiring installation of diesel soot filters and encouraging the retirement, replacement, or retrofit of older engines with newer emission-controlled models. The phasing of this regulation has full implementation by 2023.

The CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-Road Diesel-Fueled Fleets regulation adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR Section 2449). The compliance schedule requires full implementation by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

While the goals of these measures are primarily to reduce public health impacts from diesel emissions, compliance with the regulation has shown an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines.

California Environmental Quality Act

In accordance with CEQA and Appendix F, Energy Conservation, of the 2018 State 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. State CEQA *Guidelines* Appendix F provides a list of energy-related topics to be analyzed in the EIR. In addition, while not described or required as significance thresholds for determining the significance of impacts related to energy, Appendix F provides the following topics for consideration in the discussion of energy use in an EIR, to the extent the topics are applicable or relevant to the project:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed;
- The effects of the project on local and regional energy supplies and on requirements for additional capacity;
- The effects of the project on peak and base period demands for electricity and other forms of energy;

- The degree to which the project complies with existing energy standards;
- The effects of the project on energy resources; and
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

In late 2018, the California Natural Resources Agency finalized updates to the 2018 State CEQA *Guidelines* (California Natural Resources Agency 2018). Appendix G was amended to now include the analysis of energy. Previously included in Appendix F, the Appendix G Checklist now provides energy criteria for the analysis of wasteful energy consumption and conflicts with state or local energy efficiency plans (California Natural Resources Agency 2018). Appendix F did not describe or require significance thresholds for determining the significance of impacts related to energy. According to the updated Appendix G Checklist, Issue VI. Energy, a project would have a significant impact on energy and energy resources if it would:

- a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Local

Kern County General Plan

The project site is located within the *Kern County General Plan*, and the policies, goals, and implementation measures in the *Kern County General Plan* applicable to energy as related to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the project; therefore, they are not listed below.

Chapter 5. Energy Element

5.4.4 – Transformation Development

Goals

Goal: To provide for the careful siting of proven transformation technologies which provide for minimum risks to the environment and to public health and safety.

Policies

Policy 2: The County should encourage the safe and orderly development of biomass conversion facilities as an alternative to burning agricultural wastes.

Policy 3: When evaluating proposals for transformation plants, the County should take under consideration whether the projects will produce air pollutant emissions in quantities that could reduce the ability to site other energy projects.

Policy 4: New transformation facilities shall be in conformance with the Kern County General Plan and the Kern County and Incorporated Cities Integrated Waste Management Plan

Implementation Measures

Implementation Measure A: The County shall continue to maintain provisions in the Kern County Zoning Ordinance to provide for the safe and orderly development of transformation projects.

4.5.4 Impacts and Mitigation Measures

This section evaluates the impacts related to energy consumption that may occur during construction and operation of the project. It describes the energy resources associated with the project 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, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

This analysis addresses the project's potential energy usage of electricity, natural gas, and transportation fuel (diesel and gasoline) during both construction and operation. The assessment presented herein is based, in part, on the Energy Assessment prepared for the project (Bowman and Robertson 2020; see Appendix E), review of the project design, and an analysis of applicable Federal, State, and local policies.

Construction

Construction of the composting facility would not result in a substantial net change in energy use compared to existing operational conditions. As such, energy usage for construction emissions is analyzed qualitatively.

Energy consumption required during construction of the proposed bioenergy facility would primarily be in the form of gasoline and diesel fuel to power off-road vehicles and equipment and on-road vehicles. Off-road vehicle and equipment energy consumption was estimated by considering the horsepower rating, number of equipment used, usage hours, load factor, and horsepower hours per day. On-road vehicle energy consumption was estimated by considering the vehicle type and quantity, number of operating days, trips per day, and mileage of trips.

Operation

The proposed expansion of waste streams associated with the landfill would not result in a substantial change in energy use compared to existing conditions. The landfill modifications would include the use of mobile light towers. The light towers would be mounted on diesel-powered mobile sources. Diesel fuel consumption was calculated by estimating the duration of mobile lighting use. Operation of the composting and bioenergy facilities would require similar forms of energy consumption as described above for construction activities. Operational energy use was estimated using similar methods as described above. The analysis assumed that haul trucks carrying feedstock and compost materials to and from the composting and bioenergy facilities would not have empty loads.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify, per Appendix G of the State CEQA *Guidelines*, a project would have a significant impact to energy and energy resources if it would:

- a. Result in a 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 4.5-1: The project would result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.

eASP Composting Facility

Construction

Transportation Fuels

As described in Chapter 3, *Project Description*, construction of the proposed composting facility would involve modifications to an existing landfill facility to allow for the expansion of waste streams to be accepted and disposed of at the landfill. Modifications made to the existing landfill would involve minor grading, excavation of retention ponds, and the installation of solar-powered blowers for aerating compost piles. These activities would require minimal amounts of non-renewable resources in the form of gasoline and diesel to power off-road construction vehicles/equipment and on-road vehicles.

The equipment used to perform construction activities would be sourced from the existing landfill operations. This would minimize fuel consumption by avoiding the need to import additional equipment to perform construction tasks. Furthermore, the amount of fuel resources used during construction would be similar to the amount currently used in existing landfill operations and maintenance. In addition, the project proponent would comply with CARB regulations regarding heavy-duty truck idling limits and the use of on-road and off-road equipment and all vehicles would meet Federal and State standards for efficiency and emissions. Compliance with these regulations and standards would help improve vehicle energy utilization efficiency during construction activities. Given that construction would not result in a net increase in fuel consumption compared to existing conditions and vehicles/equipment would comply with Federal and State efficiency standards, construction of the proposed composting facility would not result in the wasteful, inefficient, or unnecessary consumption of transportation fuels, and impacts would be less than significant.

Electricity and Natural Gas

Construction activities would not require connection to electrical or natural gas utilities and no electrical or natural-gas-powered equipment/vehicles would be used. As such, the project would have no effect on local or regional electricity or natural gas supplies and requirements for additional capacity, and the project would not result in wasteful, inefficient, or unnecessary consumption of electricity or natural gas. No impacts would occur.

Operation

Transportation Fuels

Energy consumption required during operation of the proposed composting facility would primarily be in the form of gasoline and diesel to power on- and off-road vehicles. Off-road vehicles would consist of one windrow turner to be used for mixing feedstock, and wheeled loaders that would be used for moving feedstock and compost between processing pads and loading finished compost product into delivery trucks. A wheeled tractor for pulling the windrow turner, water trucks for dust suppression, and mobile lighting trucks would also be used during operation. Estimated annual diesel fuel consumption for off-road vehicles, including additional lighting towers, is anticipated to be 463,404 gallons. This represents approximately 0.16% of total diesel fuel consumed in Kern County in 2019.

On-road vehicles would be used for employee travel, routine business travel, the transport of compostable feedstock material to the composting facility, and the transport of finished compost material to end users. Expected annual fuel consumption for on-road vehicles is 942,222 gallons (917,928 gallons of diesel and 24,294 gallons of gasoline). This represents less than 0.01 and 0.29% of total gasoline and diesel fuel consumed in Kern County in 2019, respectively. It should be noted that logistics aims to maximize efficiency by avoiding empty loads when delivering and picking up materials. Since the majority of energy use involves transporting feedstock to the facility and delivering compost material to end users, the overall energy used by on-road vehicles is expected to be greatly reduced by ensuring nonempty loads both to and from the site.

Operation of the composting facility would also require the use of aeration blowers. These systems would be powered by four batteries that are charged by photovoltaic panels. The system would be tied into PG&E powerlines that run adjacent to the site should the photovoltaic panels need to be shut off for maintenance purposes.

In total, operation of the composting facility and the additional fuel required for the aforementioned lighting towers required for the increased hours of operation would result in the estimated annual consumption of 1,434,826 gallons of diesel fuel and 24,294 gallons of gasoline, which represents 0.45% and less than 0.01% of total diesel fuel and gasoline consumed in Kern County in 2019, respectively. This equates to an annual anticipated energy usage of 189,052 gigajoules (GJ) (one gallon = 0.13176 GJ). The breakdown of on- and off-road fuel consumption for the composting facility is provided in **Table 4.5-3, *On-Road Fuel Consumption for Composting Facility***, and **Table 4.5-4, *Off-Road Equipment Fuel Consumption for Composting Facility***, respectively.

Since most operational energy use involves transporting feedstock to the composting facility and delivering compost material to end users, haul trucks carrying feedstock and compost materials to and from the site would have nonempty loads, consistent with the assumptions underlying the analysis of truck trips. Further, the project proponent would comply with CARB regulations regarding heavy-duty truck idling limits and the use of on- and off-road equipment and all vehicles would meet Federal and State standards for efficiency and emissions. Compliance with Federal and State regulations and standards aimed at improving vehicle energy utilization efficiency would ensure operational activities would not result in the wasteful, inefficient, or unnecessary consumption of transportation fuels, and impacts would be reduced to less than significant.

Electricity and Natural Gas

Construction activities would not require connection to electrical or natural gas utilities and no electrical or natural-gas-powered equipment or vehicles would be used. As such, the composting facility would have no effect on local or regional electricity or natural gas supplies or requirements for additional capacity, and would not result in wasteful, inefficient, or unnecessary consumption of electricity or natural gas. No impacts would occur.

Table 4.5-3 On-Road Fuel Consumption for Composting Facility

Vehicle Type	Vehicle Use	Days	Trips per Day	Trips per Year	Offsite (Mi)	Onsite (Mi)	Annual Travel (VMT/Yr)	Fuel Consumption (gal/VMT)	Fuel Consumption (gal/Yr)
Light-Duty Truck	Supervisor	365	4	1,460	50	1.0	74,460	0.031	2,308
Light-Duty Truck	Technical Staff	365	4	1,460	50	1.0	74,460	0.031	2,308
Light-Duty Truck	Mechanic	365	2	730	50	1.0	37,230	0.031	11,573
Light-Duty Truck	Equipment Operators	365	6	2,190	50	0.5	110,595	0.031	3,428
Light-Duty Truck	Personnel for Facility	365	6	2,190	50	0.6	110,595	0.031	3,428
Light-Duty Truck	Miscellaneous Business	104	2	208	50	0.5	10,504	0.031	326
Light-Duty Truck	Lab Services	104	2	208	50	1.0	10,608	0.031	329
Light-Heavy-Duty Truck	Delivery of Office Supplies	104	2	208	50	0.0	10,400	0.057	593
T7 Tractor (Diesel)	Deliver to Compost Facility	365	111	40,515 ¹	100	0.25	4,061,629	0.113	458,964
T7 Tractor (Diesel) ¹	Ship from Compost Facility	365	111	40,515 ¹	100	0.25	4,061,629	0.113	458,964
TOTAL									942,222

¹ The analysis assumed that haul trucks carrying feedstock and compost materials to and from the composting facility would have nonempty loads.
 Source: Bowman and Robertson 2020

Table 4.5-4 Off-Road Equipment Fuel Consumption for Composting Facility

Number of Units	Equipment Description	USEPA Tier ²	Use	BSFC ³	Eng. Load ³	Hr/Day ³	No. of Days	Total Op. ⁴ (Hr/Yr)	Fuel Consumption (gal/hr/unit)	Fuel Consumption (gal/yr)
1	Windrow turner	-	-	-	-	12	365	4,380	-	-
1	Wheeled tractor	4i	Tractor to pull windrow turner	200	0.59	12	365	4,380	6.1	26,718
3	Wheeled loader	4i	Apply cover to eASP	250	0.59	12	365	4,380	7.7	101,178
3	Wheeled loader	4i	Move cured compost	250	0.59	12	365	4,380	7.7	101,178
3	Wheeled loader	4	Move and mix immature compost	350	0.59	12	365	4,380	10.7	140,598
2	Water truck	2010+	Water site for dust suppression	350	0.59	12	365	4,380	10.7	93,732
TOTAL										463,404

Note: Density of diesel 7.05 pounds/gallon

¹ Number of units required to provide necessary level of service.

² USEPA Tier of equipment readily available over life of project.

³ Brake-specific fuel consumption (pounds of fuel/hp-hr): obtained from USEPA nonroad study.

⁴ Total hours of operation required for equipment (worst-case assumption).

⁵ The Windrow Turner is a towed device; it does not have an engine.

Source: Bowman and Robertson 2020

Bioenergy Facility

Construction

Transportation Fuels

Construction of the proposed bioenergy facility is expected to require 11 months to complete. Energy consumption required during construction of the proposed bioenergy facility would primarily be in the form of gasoline and diesel fuel to power off-road vehicles and equipment and on-road vehicles. Total energy consumed during construction of the bioenergy facility is estimated to be approximately 104,356 gallons of fuel. For comparison purposes, assuming the off-road vehicles and equipment and on-road vehicles would rely on diesel fuel, the 104,356 gallons of fuel used during construction would represent approximately 0.3% of total diesel fuel consumed in Kern County in 2019. Construction would be performed in a manner to maximize efficiency with equipment, materials, and labor being sourced as close as possible to the project site. Additionally, compliance with CARB regulations regarding heavy-duty truck idling limits and the use of on- and off-road equipment and vehicles that meet Federal and State standards for efficiency and emissions would help improve energy utilization efficiency. As a result, construction activities would not result in the wasteful, inefficient, or unnecessary consumption of transportation fuels, and impacts would be less than significant.

Electricity and Natural Gas

Construction activities would not require connection to electrical or natural gas utilities, and no electrical or natural gas-powered equipment/vehicles would be used. As such, the bioenergy facility would have no effect on regional or local electricity or natural gas supplies or requirements for additional capacity, and would not result in wasteful, inefficient, or unnecessary consumption of electricity or natural gas. No impacts would occur.

Operation

Transportation Fuels

Energy consumption required during operation of the proposed bioenergy facility would primarily be in the form of gasoline associated with vehicles delivering feedstock to the bioenergy facility and worker passenger vehicle road trips. Total annual on-site and off-site vehicle travel associated with the facility, including for feedstock deliveries and worker passenger vehicle roundtrips, were estimated for the project's Health Risk Assessment (HRA) Report to be 9,733. The annual energy consumption associated with all the vehicle travel associated with the facility is conservatively estimated to be approximately 154,827 gallons of gasoline. This represents approximately 0.03% of total gasoline consumed in Kern County in 2019.

It is anticipated that feedstock supply logistic cost considerations would minimize round-trip distances for feedstock trucking, which is expected to significantly reduce the actual vehicle travel energy consumption below the conservative assumptions made for the vehicle trip

estimate. Compliance with CARB regulations regarding heavy-duty truck idling limits and the use of on- and off-road equipment and vehicles that meet Federal and State standards for efficiency and emissions would help improve energy utilization efficiency. As a result, operation activities would not result in the wasteful, inefficient, or unnecessary consumption of transportation fuels and impacts would be reduced to less than significant.

Electricity and Natural Gas

The bioenergy facility would use approximately 0.08 million therms per year (8,000 million British thermal units per year) of natural gas. The natural gas would be used to operate a main burner associated with the thermal oxidizer. A thermal oxidizer is used for decomposing hazardous gases at high temperatures until the gases are oxidized. The main burner would heat up the thermal oxidizer and the downstream equipment during the startup procedure. The thermal oxidizer's main burner would be used up to 10 times per year for up to 20 hours at a time. For comparison purposes, the thermal oxidizer's annual natural gas demand of 0.08 million therms represents less than 0.01% of total natural gas consumed in Kern County in 2018.

The bioenergy facility would be designed to include best available energy control technologies, including the use of air preheaters, which would be installed at the facility's gasification units to recover thermal energy produced from the thermal oxidizer flue gas. The air preheaters would improve the gasifier's conversion and thermal efficiency and improve the energy efficiency of the facility's operation.

The bioenergy facility would utilize a combination of best demonstrated available technologies to produce renewable electricity that would be exported to the PG&E electrical grid. The bioenergy facility would generate up to 3.9 MW of electricity, of which, approximately 0.9 MW would be used to support facility operations and 3.0 MW would be exported to the PG&E power grid. This electricity generation would assist State investor-owned utilities in meeting their obligations under State RPS guidelines by providing a renewable energy alternative to the utilities' existing power mix.

Given the bioenergy facility's relatively infrequent use of natural gas, its minimal natural gas consumption relative to Kern County as a whole, and incorporation of best available control technologies, operation activities would not result in the wasteful, inefficient, or unnecessary consumption of natural gas and impacts would be less than significant.

Landfill Facility

The proposed expansion of waste streams accepted at the landfill is not anticipated to result in an increased consumption of energy compared to baseline conditions. The landfill would continue to accept a maximum of 2,000 tons per day, and the radius from which waste is hauled to the landfill is not expected to change significantly. The operational activities required to dispose of the new waste streams at the landfill would remain largely unchanged as well, requiring the same equipment and methods to dispose of the material as are currently used at the facility.

The proposed modification of landfill hours of operation would require additional portable lighting to support operations; usage would vary depending on time of year. Up to four mobile lighting towers may be needed to support low-light operations in areas of work. The light towers would use diesel fuel and have an estimated 60-hour run time for lighting on a full tank of fuel (30-gallon capacity). The fuel required for the additional lighting towers is provided in **Table 4.5-5, Off-Road Fuel Consumption for Lighting Landfill**.

Table 4.5-5 Off-Road Fuel Consumption for Lighting Landfill

Number of Units	Equipment Description	USEPA Tier	Use	Hr/Day ¹	No. of Days	Total Op. (Hr/Yr)	Fuel Consumption (gal/hr/unit)	Fuel Consumption (gal/yr)
4	Lighting towers	4	Lighting for night operations	10	365	3,650	2	29,200

¹ Landfill currently operates lights for approximately 2 hours each night.
Source: Bowman and Robertson 2020

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.5-2: The project would conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

eASP Composting Facility and Landfill Facility

Construction and Operation

Energy used during construction and operation would primarily be in the form of petroleum for the operation of construction vehicles/equipment. As concluded in Impact 4.5-1, the project would not result in impacts associated with wasteful, inefficient, or unnecessary use of energy. In addition, construction equipment and trucks would be required to comply with CARB regulations regarding heavy-duty truck idling limits of 5 minutes at a location and the phase-in of off-road emission standards that result in an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines. Although these regulations are intended to reduce criteria pollutant emissions, compliance with the anti-idling and emissions regulations would also result in the efficient use of construction-related energy.

Emissions from truck operations would be further reduced by complying with USEPA and NHTSA-adopted fuel efficiency standards for medium- and heavy-duty trucks. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018 and result in a reduction in fuel consumption from 6 to 23% over 2010 baseline levels, depending on the vehicle type. The USEPA and NHTSA also adopted the Phase 2 heavy-duty truck standards, which cover model

years 2021 through 2027 and require the phase-in of a 5% to 25% reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type. The energy modeling for trucks does not take into account specific fuel reductions from these regulations, since they would apply to fleets as they incorporate newer trucks meeting the regulatory standards; however, these regulations would have an overall beneficial effect on reducing fuel consumption from trucks over time as older trucks are replaced with newer models that meet the standards.

Compliance with applicable idling and fuel reduction standards would improve the energy efficiency of construction equipment and vehicles. Further, operation of the landfill and construction and operation of the composting facility would not utilize electricity from the power grid; therefore, the project would not have to mitigate for GHG-emitting energy usage. Accordingly, any plan's requirements for utilizing clean, renewable energy would be satisfied. As a result, construction and operation of the composting facility would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency and impacts would be less than significant.

Bioenergy Facility

Construction

Energy used during construction of the bioenergy facility would primarily be in the form of petroleum for the operation of construction vehicles/equipment. As such, impacts associated with construction of the bioenergy facility would be similar to those described above for the composting facility, and impacts would be less than significant.

Operation

The 2017 Scoping Plan relies on achievement of the RPS target of 50% of California's energy coming from renewable sources by 2030. SB 100 further increased California's RPS and required retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44% of retail sales by the end of 2024, 52% by the end of 2027, and 60% by the end of 2030; and that CARB should plan for 100% eligible renewable energy resources and zero-carbon resources by the end of 2045. Biomass electricity is considered an eligible renewable energy source and will contribute towards meeting mandated State RPS (PG&E 2019).

The electricity generated by the bioenergy facility is reasonably expected to displace region-wide and Statewide emissions of GHGs over the expected life of the project. The reduction in GHG emissions would be a direct result of increasing the share of renewable energy available to investor-owned utilities required to meet RPS. In addition, the project would be consistent with local *Kern County General Plan* policies aimed at encouraging biomass conversion facilities.

Operation of the bioenergy facility would provide up to 3 MW of electricity to the power grid. Because implementation of the bioenergy facility directly aligns with the goals of the RPS and would be consistent with local *Kern County General Plan* policies and goals governing

bioenergy facilities, operation of the bioenergy facility would not conflict with a State or local plan for renewable energy or energy efficiency and impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative Setting

The project's contribution to an increased need for energy is considered in the context of other past, present, and reasonably foreseeable future projects within a 6-mile radius of the project site, as well as other similar (i.e., landfill, composting and/or bioenergy) projects in Kern County. As provided in **Table 3-15, *Cumulative Projects List***, in Chapter 3, *Project Description*, three cumulative projects similar to the proposed project are proposed within the greater Kern County area. The first cumulative project involves the expansion of an existing solid waste facility located approximately 8 miles west of the City of Shafter. The second cumulative project is located south of the unincorporated Town of McKittrick and involves expansion of an existing Class II nonhazardous oilfield waste landfill facility. The third cumulative project is located approximately 7.6 miles east of the unincorporated community of Buttonwillow and involves the expansion of an existing hazardous waste facility. These developments could further contribute to the demand for energy in Kern County.

Significant cumulative impacts would occur if the proposed or surrounding projects identified would overburden energy facilities and/or contribute to the inefficient and negative impacts of increased energy usage, thereby resulting in significant combined impacts related to the need for development of new facilities and increased energy production. Public agencies and utilities are given an opportunity to respond to inquiries for information regarding the potential increase in demand for their services.

Impact 4.5-3: The project would contribute to cumulative energy impacts.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

Construction and operation of the proposed project would result in the consumption of fuel and energy, but it would not do so in a wasteful manner, as discussed above. Further, operation of the bioenergy facility would produce up to 3 MW of renewable power, which would help achieve State RPS and can reasonably be expected to displace region-wide and Statewide emissions of GHGs over the expected life of the project.

The anticipated project impacts, in conjunction with the projects considered in the cumulative setting, would increase energy consumption primarily in the form of fuel consumption associated with vehicles and equipment involved in construction and operation activities. Each

cumulative project would require separate discretionary approval and CEQA assessment, which would address potential energy consumption impacts and identify necessary mitigation measures, where appropriate. Construction vehicles and equipment would be required to adhere to CARB regulations regarding heavy-duty truck idling limits.

As noted above, the proposed project would not result in significant energy consumption impacts. The proposed project would not be considered inefficient, wasteful, or unnecessary with regard to energy consumption. Thus, the proposed project would not contribute considerably to cumulative energy consumption, and cumulative impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

4.6.1 Introduction

This section of the Environmental Impact Report (EIR) describes the geologic and seismic setting of the project area, identifies and describes underlying soils and their characteristics, identifies potential impacts associated with implementation of the proposed project, and recommends mitigation measures to reduce the significance of impacts, where applicable. The issues addressed in this section include risks associated with faults; strong seismic ground shaking; seismic-related ground failure, such as liquefaction, landslides, erosion, subsidence, and earthquake-induced dam failure; and flooding. This section is primarily based on the *Landfill Cap Elevation and Design and Geotechnical Evaluation of Proposed Vertical Expansion for the H.M. Holloway Solid Waste Facility* (Appendix F.1; ES Engineering Services 2017), *Addendum to Report, Geotechnical Evaluation of Proposed Composting Facility Lost Hills Composting Project* (Appendix F.2; NOVA Geotechnical and Inspection Services 2020), and *Geology and Soils Review in Support of Compost Facility Permitting, Lost Hills Environmental, LLC Compost Site* (Appendix F.3; BSK Associates 2019), as well as data from the *Kern County General Plan*, California Geologic Survey (CGS), U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), and various other publicly available data sources.

A description of the environmental setting (affected environment) for geology and soils is presented below in Section 4.6.2, *Environmental Setting*, including discussion of the geologic setting (e.g., soils and geologic formations, faults, and seismic history) and geologic and seismic hazards (e.g., slope stability, soil hazards, faults and seismicity, strong ground shaking, fault rupture, liquefaction). The regulatory setting applicable to geology and soils is also presented in Section 4.6.2, *Environmental Setting*, and discusses project impacts and associated mitigation measures. Additional descriptions of erosion and sediment impacts on surface water (e.g., turbidity) and mitigation, as appropriate, are presented in Section 4.9, *Hydrology and Water Quality*.

Concepts and Terminology

Definitions of concepts and terminology applicable to this section are provided below.

Expansive Soils: These soils generally result from specific clay minerals that expand in volume when saturated and shrink in volume when dry. The presence of this soil type can damage structures when expansion and contraction of soil cracks rigid building materials (e.g., concrete, wood, drywall, etc.).

Faults: Faults are fractures in the crust of the earth along which land on one side has moved relative to land on the other side. Most faults are the result of repeated displacements over a

long period of time. A fault trace is the line on the earth's surface defining the fault. Faults are classified as active, potentially active, and inactive based on criteria developed by the CGS, formerly known as the California Division of Mines and Geology. By definition, an active fault is one that has experienced surface displacement within the Holocene period (within the last 11,000 years), a potentially active fault is one that has experienced displacement within the Quaternary period (during the last 1.6 million years), and inactive faults are those that have not experienced movement in the last 1.6 million years.

Ground Shaking: The central and southern California regions are characterized by, and have a history of, faults and associated seismic activity. Earthquakes are classified by their magnitude, a measure of the amount of energy released during an event.

Landslides and Rockfalls: These events are large movements of land downhill. They can be induced by seismic events (earthquakes) or wet, saturated soil conditions and can cause significant damage to life and property. Landslides are defined as the movement of rock, debris, or earth masses down a slope. Landslides are a form of "mass wasting," which refers to any downslope movement of soil and rock under the direct influence of gravity. Landslide events include rock falls, topples, slides, spreads, and debris flows. Causes of landslides include rainfall, earthquakes, volcanic activity, groundwater changes, and alteration of a slope by manmade construction activities.

Liquefaction: This occurs when saturated, loose materials (e.g., sand, silty sand) are weakened and transformed from a solid to a near-liquid state due to increased pore water pressure. The increase in pressure is caused by strong ground motion from an earthquake.

Paleontological Resources: The physical remains of plants and animals preserved in soils and sedimentary rock formations. Paleontological resources contribute to the understanding of past environments, environmental change, and the evolution of life.

Quaternary Age: The most recent of the three periods of the Cenozoic Era in the geologic time scale of the International Commission on Stratigraphy (ICS). It follows the Tertiary Period, spanning 2.588 ± 0.005 million years ago to the present. The Quaternary includes two geologic epochs: the Pleistocene and the Holocene Epochs.

Seismic Hazards: Seismicity is the geographic and historical distribution of earthquakes, including their frequency, intensity, and distribution. Seismic hazards include surface rupture, ground shaking, liquefaction, landslides, subsidence, expansive soils, and soils and soil erosion.

Subsidence: Land subsidence is the gradual, local setting or shrinking of the earth's surface with little or no horizontal motion. Subsidence is normally the result of gas, oil, or water extraction, hydro compaction, or peat oxidation and not the result of landslide or ground failure.

Surface Rupture: This occurs when movement on a fault deep within the earth breaks through to the surface. Fault ruptures almost always follow pre-existing faults that are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking. Fault creep is the slow rupture of the earth's crust.

Unique Paleontological Resource: This term is defined as a fossil that meets one or more of the following criteria: (1) it provides information on the evolutionary relationships and developmental trends among organisms, living or extinct; or (2) it provides data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geology.

4.6.2 Environmental Setting

Regional Geologic Setting

The project site is located near the southeastern corner of the Great Valley Geomorphic Province, one of 11 provinces recognized in California. The Great Valley Geomorphic Province, which lies within the central portion of California, is approximately 400 miles long and 50 miles wide. It extends from Redding in the north to Bakersfield in the south and is characterized by thick alluvial deposits in a wide and long structural trough bounded by the Sierra Nevada and Coast Range mountain ranges. The southern part of the province is defined by the San Joaquin Valley which is drained by the San Joaquin River (California Geological Survey [CGS] 2002). The Tehachapi Mountains mark the southern boundary of the province, which is not far from the intersection of the San Andreas and Garlock faults. The Garlock Fault is a major strike-slip fault that is oriented in a roughly east-west direction. The San Andreas Fault is the master fault of an intricate fault network cutting through the California coastal region; the fault extends from northern California to the San Bernardino area of southern California. Sediments from all directions have been deposited into the Great Valley Geomorphic Province almost continuously for approximately 160 million years. The province contains predominantly sedimentary rocks and recent alluvial deposits, with limited amounts of volcanic rock located in the Sutter Buttes area near Sacramento. In general, coarser sediments are found in recent, terrestrial sedimentary deposits near the margins of the Great Valley Geomorphic Province.

Local Geologic Setting

Geology

As described in Chapter 3, *Project Description*, the project site is comprised of two adjacent sites, Sites A and B, which are separated by Holloway Road. Site A is an existing Class III non-hazardous industrial waste landfill facility located at 14045 Holloway Road on the west side of Holloway Road at the G P Road junction. Existing landfill operations and the proposed extended Aerated Static Pile (eASP) composting facility would be sited within Site A. Site B is an equipment staging and storage lot on the east side of Holloway Road, north of G P Road and would be the future site of the proposed bioenergy facility.

The project sites are relatively flat and slope gently to the east-southeast; natural elevations on the project sites are generally within the 410- to 425-foot contour on the Antelope Plain, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. Two features dominate the region topographically: the northwest-southeast-trending Lost Hills Anticline,

which borders the eastern limits of the project, and the easterly sloping Antelope Plain, which lies between western limits of the project site and the eastern flank of the central Coast Ranges.

Soils

Surface sediments of Quaternary alluvial deposits are common within the portion of the San Joaquin Valley associated with the project sites, and consist of clay, silt, sand and gravel derived predominately from the mountain complexes to the west, via the Antelope Floodplain. These entisols (recently formed or created soils), which lack soil horizon development, are generally found in active environments such as the distal end of a floodplain or mountain slope. The bulk of the soil is made up of unchanged parent material such as sand or rock fragments. This soil is of low fertility and susceptible to erosion unless well terraced for agriculture (BSK Associates 2019).

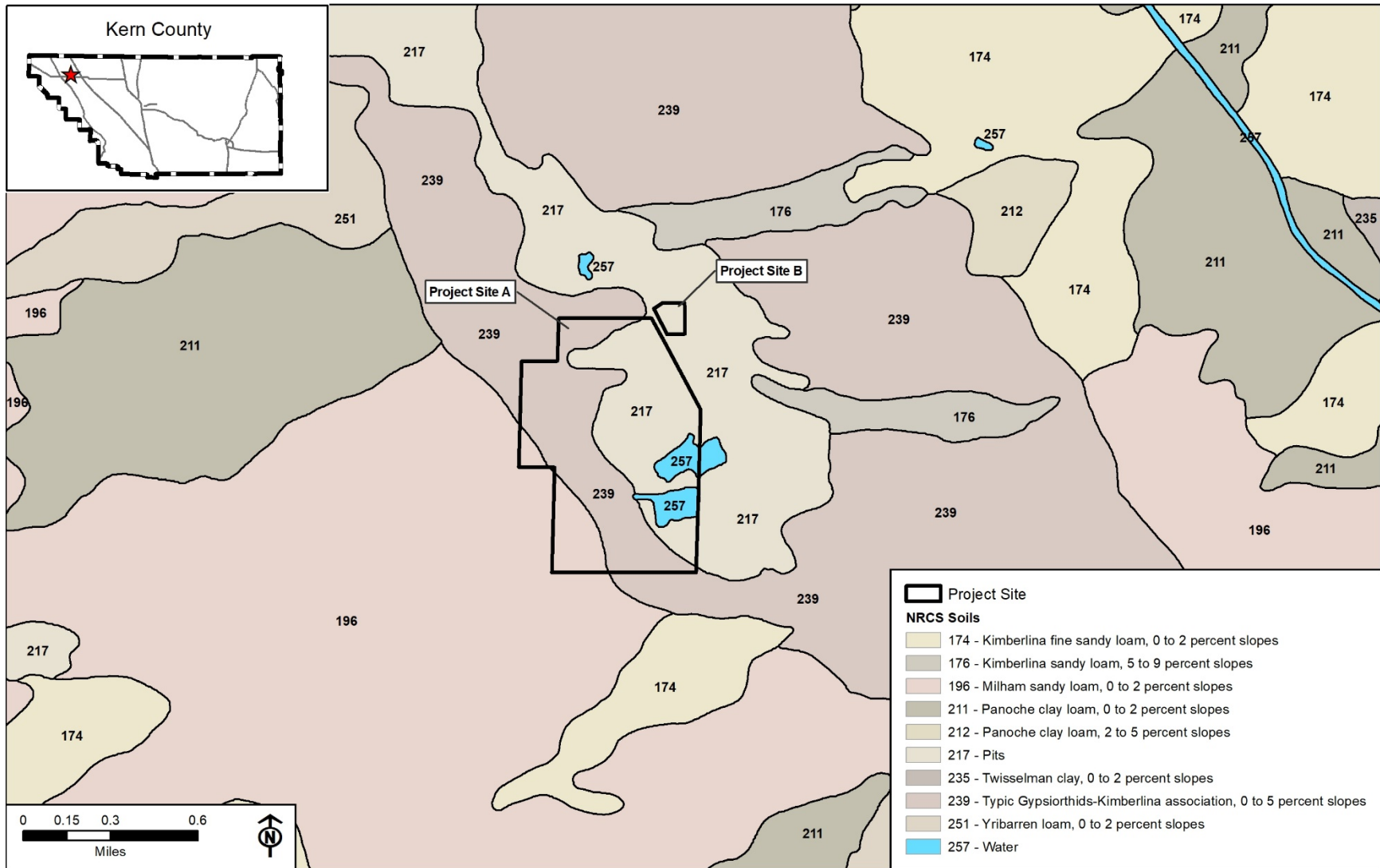
As identified on **Figure 4.6-1, Soils Map**, three soil types and surface water underlay the project sites. The soil types within Site A include 196 – Milham sandy loam, 0 to 2 percent slopes; 239 – Typic Gypsiorthids-Kimberlina association; 217 – Pits; and 257 – water; and the soil type within Site B includes 217 – Pits (NRCS 2020).

The pits soil classification consists of soils that have been excavated. Slopes are flat to gently sloping and generally consist of gravel pits and quarries. Drainage classes and hydrological properties are not assigned for this soil type. The Milham sandy loam is dominated by nearly level to moderately sloping, well-drained fine sandy loam. The Typic Kimberlina Association consists of gently to moderately sloping, well-drained clay loam, and fine sandy loam. The water classification consists of surface water that covers underlying soil types. All soil types listed above are on alluvial fans and alluvial plains (NRCS 2020).

Faults

The project sites are situated in a region of active and potentially active faults, consistent with the majority of central and southern California. Active faults present a variety of potential risks, including strong ground shaking, dynamic densification, liquefaction, mass wasting, and surface rupture at the fault plane. Generally speaking, the following four factors are the principal determinants of seismic risk at a given location:

- Distance to seismogenically capable faults;
- The maximum or “characteristic” magnitude earthquake for a capable fault;
- Seismic recurrence interval, in turn related to tectonic slip rates; and
- Nature of earth materials underlying the site.



**Figure 4.6-1
Soils Map**

As shown on **Figure 4.6-2, *Fault Map***, below, the project area is located in the vicinity of four regionally significant active faults: Poso Creek Fault (located approximately 22 miles east), San Andreas Fault (located approximately 18 miles southwest), San Juan Fault (located approximately 26 miles southwest), and La Panza Fault (located approximately 42 miles southwest) in addition to smaller, unnamed faults approximately 22 miles to the south of the project sites (CGS 2018). No known faults cross the project sites.

Greater distances, lower slip rates, and lesser maximum magnitudes indicate much lower risk to the project sites from the fault zones located more than 15 miles from the project sites. The primary seismic hazard throughout the proposed project area is ground shaking from the regionally significant active faults located approximately 18 to 26 miles away from the project sites. Descriptions of each of the regionally significant faults are provided below.

Poso Creek Fault

Poso Creek Fault is a semi-active, normal fault that spans approximately 14 kilometers and begins north of the community of Wasco. The fault dips to the south and is located approximately 22 miles from the project sites (Southern California Earthquake Data Center [SCEDC] 2020b).

San Andreas Fault

San Andreas Fault is a right-lateral, strike-slip fault that extends approximately 746 miles from the Mendocino Escarpment in northern California to Cajon Pass near San Bernardino in southern California. The segment of San Andreas Fault in Kern County is a small portion of the total extent; however, it is important because it is an active fault capable of damaging the project area. This portion of the fault breaks from the fault zone's predominantly 350-degree trending direction between the San Luis Obispo and Los Angeles County lines. Several earthquakes have occurred within the San Andreas Fault Zone in historic times that have produced significant seismic shaking in the vicinity of the project area. The most recent notable earthquake event on this segment of San Andreas Fault was the Fort Tejon Earthquake, which occurred on January 9, 1857, resulting in a rupture extending more than 200 miles (SCEDC 2020c). An earthquake along this fault is estimated to have a magnitude of 8.3, which is designated as the maximum credible earthquake. Areas along this fault have been designated as Alquist-Priolo Special Studies Zones. The closest segment of this fault is located approximately 18 miles southwest of the project sites.

San Juan and Big Springs Faults

San Juan Fault is a semi-active, right-lateral, strike-slip fault that spans almost 40 miles. San Juan Fault is much less active than San Andreas Fault, and the southern end sees the least amount of activity. The most recent earthquake along this fault occurred during the Holocene period (SCEDC 2020d). Big Springs Fault, which is another semi-active, right-lateral strike-slip fault, is part of the San Juan Fault Zone, spans nearly 10 miles and branches off San Juan Fault. This fault zone has seen little activity since the Holocene period; however, due to the relatively recent activity, this fault is listed as capable of damaging surrounding areas. The

closest segment of this fault zone is the San Juan Fault located approximately 26 miles southwest of the project sites.

La Panza Fault

La Panza Fault is a reverse fault approximately 15 kilometers in length. The fault trends in a northeast-southwest direction and is located approximately 42 miles southwest of the project sites (SCEDC 202a).

Seismic Hazards

Fault Rupture

Fault (surface) ruptures are generally considered to be more likely along active faults (faults with observed displacement in the last 11,000 years). Alquist-Priolo Fault Zones are buffers around historically active faults that have been determined to be especially prone to surface fault rupture.

The project sites are not located within an Alquist-Priolo Fault Zone (CGS 2018). As described above, the closest active fault to the project sites—San Andreas Fault—is located approximately 18 miles southwest of the project sites and does not cross or trend toward the project sites. Based on the distance between the project sites and San Andreas fault, risk of fault rupture within the project sites is expected to be low.

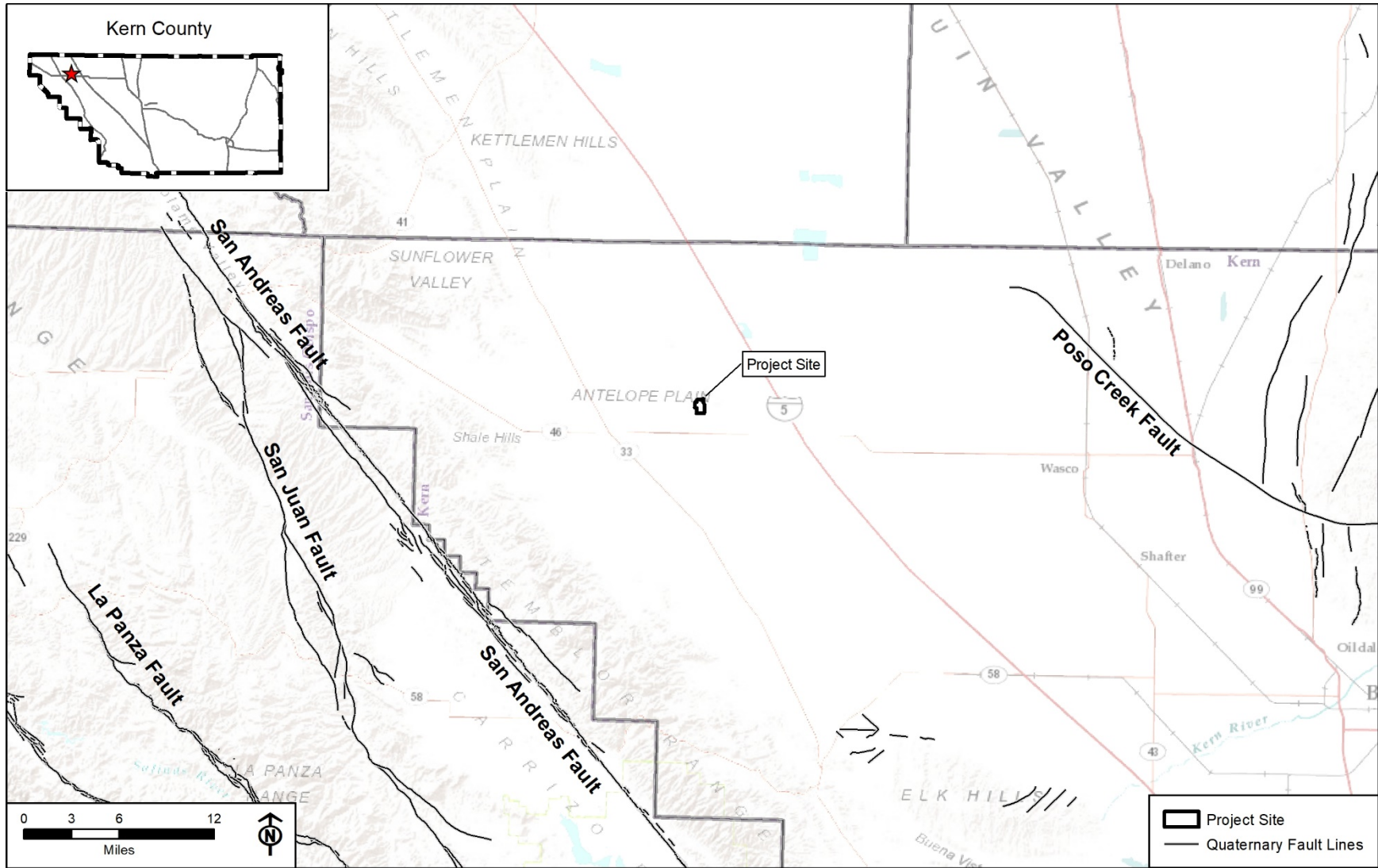
Ground Shaking

During a seismic event, the project sites may be subjected to high levels of ground shaking due to proximity to active faults in the region (CGS 2016). All active faults in the project vicinity are capable of generating significant ground shaking during a seismic event. Seismic events on other active faults of the region would also have the potential to cause groundshaking at the project sites. **Table 4.6-1, *Historic Earthquakes in Project Area Vicinity***, shows some of the significant historical earthquakes that have occurred in the region and their magnitudes.

Table 4.6-1 Historic Earthquakes in Project Area Vicinity

Earthquake (Year)	Approximate Distance to Project Site (miles)	Earthquake Magnitude
Wheeler Ridge (1993)	41	5.2
Parkfield (1966)	55	6.0
Kern County (1952)	61	7.5

Source: SCEDC 2020d



**Figure 4.6-2
Fault Map**

Liquefaction

The susceptibility to liquefaction is a function of depth, density, groundwater level, and magnitude of an earthquake. Liquefaction-related phenomena can include lateral spreading, ground oscillation, flow failure, loss of bearing strength, subsidence, and buoyancy effects. For liquefaction to occur, the soil must be saturated (i.e., shallow groundwater) and be relatively loose. Liquefaction more often occurs in areas underlain by young alluvium, where the groundwater table is higher than 50 feet below ground surface. According to Figure 14 in the *Kern County General Plan Safety Element* and the Land Use Map in the *Kern County General Plan Land Use Open Space and Conservation Element*, the project sites are not within a designated zone of shallow groundwater.

Further, the groundwater depth at Site A is approximately 150 to 300 feet below ground surface, except for several perched groundwater zones. The perched groundwater zones are laterally discontinuous and occur at approximately 30 feet below ground surface. These shallow perched zones do not contain sufficient volume to generate a liquefaction concern (ES Engineering 2017). As such, the risk of liquefaction is low.

While a geotechnical report analyzing groundwater conditions for Site B has not been prepared, given the site's proximity to Site A and location outside of a designated zone of shallow groundwater, the risk of liquefaction is low.

Lateral Spreading

Lateral spreading is a potential hazard commonly associated with liquefaction where extensional ground cracking and settlement occur as a response to lateral migration of subsurface liquefiable material. These phenomena typically occur adjacent to free faces such as slopes and creek channels. The project sites are located on flat to gently sloping terrain where the potential for lateral spreading to occur is considered low.

Seismically Induced Landslides and Rockfalls

According to the *Kern County General Plan*, the areas of Kern County with slopes subject to failure are predominantly found along the river terraces, bluffs, and foothills, which are not present within the project sites. The project sites are located on flat to gently sloping topography and are not designated as a landslide hazard zone in the *Safety Element of the Kern County General Plan* or on the Land Use Map in the *Land Use Open Space and Conservation Element*.

The geotechnical report for Site A included a slope stability analysis to evaluate slope performance under seismic loading. The report found that the 3:1 slope ratio associated with the existing landfill would be stable under seismic conditions (ES Engineering 2017).

Subsidence

Subsidence is occurring within the San Joaquin Valley and has been identified in portions of northern and western Kern County, northwest of the intersection of State Route (SR-) 99 and SR-166, and in the vicinity of the City of Visalia. The project sites are in the portion of the

County where subsidence is known to occur. There are four types of subsidence occurring in the County: tectonic subsidence, subsidence from extraction of oil and gas, subsidence from groundwater withdrawal, and subsidence caused by hydro-compaction of moisture-deficient alluvial deposits. The *Safety Element* of the Kern County General Plan has indicated that, although subsidence is not a significant hazard, damage to wells, foundations, and underground utilities may occur.

Due to the petroleum and groundwater withdrawal activities throughout Kern County, subsidence has the potential to occur. The California Geologic Energy Management Division (CalGEM), formerly the Department of Conservation (CDOC) Division of Oil, Gas, and Geothermal Resources (DOGGR), monitors subsidence in oil and gas fields and regulates oil and gas withdrawal and pressurizing activities on the field. If subsidence is noted, remediation is accomplished by raising the water table by injecting water or reducing the volume of groundwater being pumped. The remediation activities ensure that no significant impacts from subsidence would occur.

Dam Failure

The nearest dam to the project sites is the Lopez Lake Dam, located approximately 50.7 miles southwest of the project sites, near the West Huasna Fault. The Lopez Lake Dam is an earth-filled dam, approximately 1,141 feet long, and has a capacity of 49,200 acre-feet of water.

If an earthquake were to occur near the Lopez Lake Dam, it could damage the dam to an extent that could cause the entire lake storage to be released. According to the County of San Luis Obispo County Safety Element, Dam Inundation Map, Lopez Lake Dam, if breached, would inundate areas to the west of the dam, and would not be able to reach the project sites due to the 50.7-mile distance to Lopez Lake Dam (County of San Luis Obispo 2017).

Flooding

The project sites are located within Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Zone X (Map Number 06029C0625E), as depicted on **Figure 4.6-3, FEMA Flood Zone Map** (FEMA 2019). This zone designation indicates an area of minimal flood hazard.

Expansive Soils

Expansive soils are characterized by their potential “shrink-swell” behavior. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in certain fine-grained clay sediments from the process of wetting and drying. Clay minerals such as smectite, bentonite, montmorillonite, beidellite, vermiculite, and others are known to expand with changes in moisture content. The higher the percentage of expansive minerals present in near surface soils, the higher the potential for significant expansion. The greatest effects occur when there are significant or repeated moisture content changes. Expansions of 10% or more in volume are not uncommon. This change in volume can exert enough force on a building or other structure to cause cracked foundations, floors, and basement walls. Damage to the upper floors of the building can also occur when movement in the foundation is significant. Structural damage

typically occurs over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils.

Plasticity index (PI) is one of the standard Atterberg limits used to indicate the plasticity characteristics of a soil. It is defined as the numerical difference between the liquid limit and plastic limit of the soil. It is the range of water content in which a soil exhibits the characteristics of a plastic solid. Soils that have a high PI have a wide range of moisture content in which the soil performs as a plastic material. Soils with a PI greater than 20 usually have a medium to high swell potential; soils with a PI greater than 35 usually have a very high swell potential. Swelling greatly reduces soil strength.

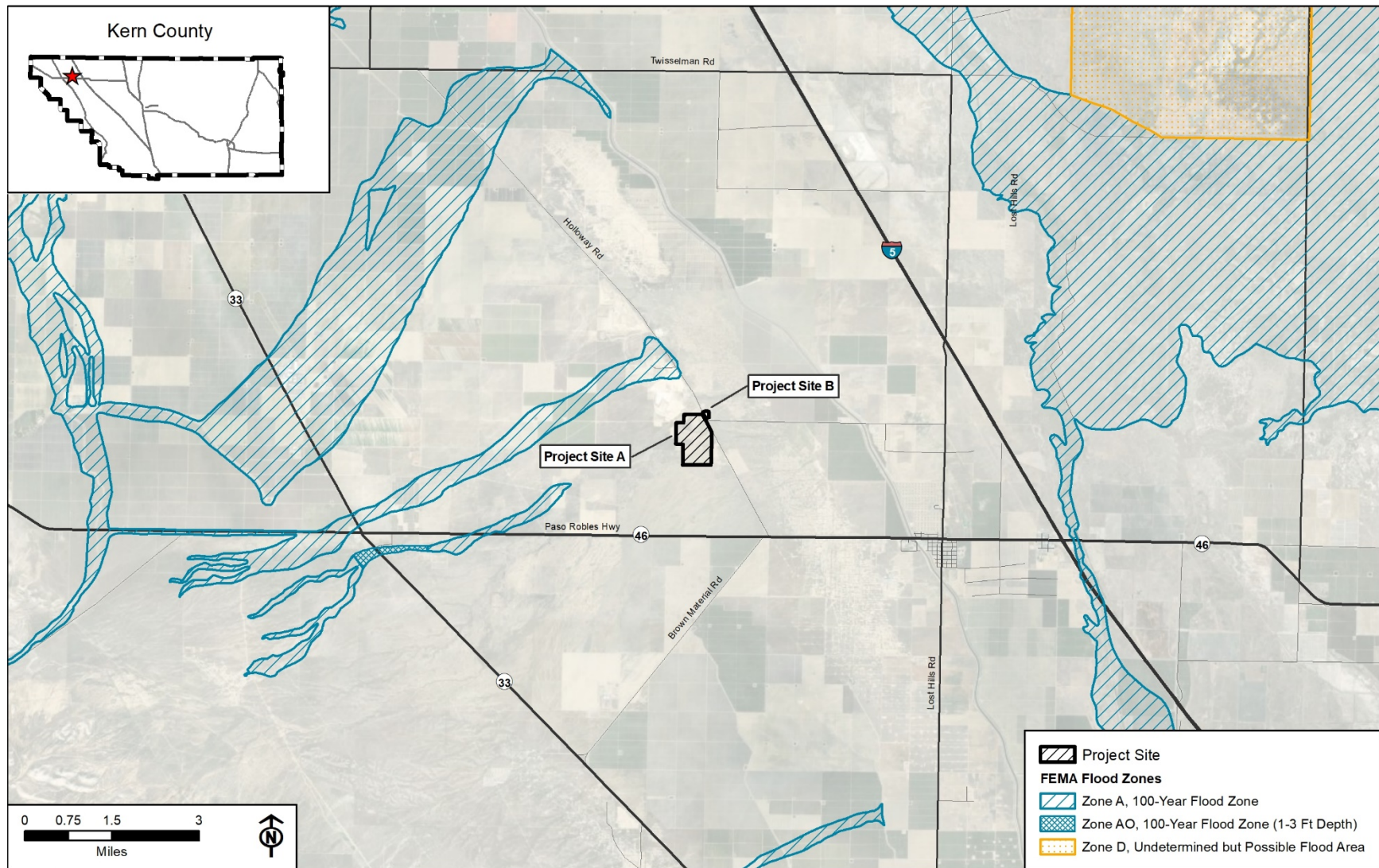
Within Site A, the soil types include 196 – Milham sandy loam, 0 to 2 percent slopes; 239 – Typic Gypsiorthids-Kimberlina association; and 217 – Pits (see **Figure 4.6-1, Soils Map**) (NRCS 2020). According to the NRCS soil survey data for Kern County, the 196 – Milham sandy loam, 0 to 2 percent slopes and 239 – Typic Gypsiorthids-Kimberlina association soil types are classified as low plasticity (ranging from 4% to 15% in the PI), with low expansion. The NRCS has not identified the PI for 217 – Pits, which also occurs within the nearby Site B. The soils report prepared for Site B identified the soils underlying the site as primarily consisting of fine sandy loam or coarse sandy loam (BSK Associates 2019).

Given the proximity of the two project sites, it is likely that the soils underlying Sites A and B would consist of similar soils. Therefore, the susceptibility of these sandy soils to collapse is considered low.

Paleontological Setting

During the late Pleistocene age, fossil evidence suggests that the San Joaquin Valley was inhabited by numerous large mammalian species including sloths, horses, bears, mammoth, bison, camels, as well as prong-horned antelope. Large carnivorous species included saber-toothed cats, wolves, mountain lions, desert coyotes and foxes, while smaller animals included rodents, rabbits, squirrels and a multitude of birds. Studies of pollen and pack rat middens suggest that desert vegetation began replacing the low-elevation woodlands between 12,000 and 8,000 years ago. Evidence suggests that the plant and animal communities that exist within the San Joaquin Valley today did not become established until after 4,300 years ago (Price et al. 2008).

Based on the geology and soils report prepared for Site B, the project area (including the site associated with the proposed composting facility) is underlain by surficial deposits of recent Quaternary alluvium (Qa) deposits consisting of clay, silt, sand, and gravels originating from the mountain complexes to the west (BSK Associates 2019). These alluvial fan deposits are commonly augmented by older recent clay, silt, sand, and gravels stream terraces and natural levee deposits. Younger Quaternary alluvium is typically not paleontologically sensitive; however, it may be underlain by older Quaternary alluvium, which has moderate potential to contain paleontological resources.



**Figure 4.6-3
FEMA Flood Zone Map**

4.6.3 Regulatory Setting

Federal

Clean Water Act (Erosion Control)

The Federal Clean Water Act (CWA) (33 United States Code [USC] 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires States to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain nonpoint-source discharges to surface water. Such discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). Projects that disturb one-acre or more are required to obtain NPDES coverage under the NPDES General Permit for Stormwater Discharges Associated with Construction Activity (General Permit), Order No. 2009-0009-DWQ. The General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which includes best management practices (BMPs) to regulate stormwater runoff, including measures to prevent soil erosion. Requirements of the CWA and associated SWPPP are described in further detail in Section 4.8, *Hydrology and Water Quality*.

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 is a statute formulating a national policy 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). Under the NEHRP, four Federal agencies have responsibility for long-term earthquake risk reduction: the USGS, the National Science Foundation (NSF), FEMA, and the National Institute of Standards and Technology (NIST). These agencies assess U.S. earthquake hazards, deliver notifications of seismic events, develop measures to reduce earthquake hazards, and conduct research to help reduce overall U.S. vulnerability to earthquakes.

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. 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 USC 320301–320303 and 18 USC 1866(b)), which calls for

protection of historic landmarks, historic and prehistoric structures, and 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 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 (NEPA), which requires the consideration of important natural aspects of national heritage when assessing the environmental impacts of a project (P.L. 91–190, 31 Stat. 852, 42 USC 4321–4327). The Federal Land Policy Management Act of 1976 (P.L. 94–579; 90 Stat. 2743, USC 1701–1782) requires that public lands be managed in a manner that will protect the quality of their scientific values, while Title 40 Code of Federal Regulations (CFR) 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 act 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

Alquist-Priolo Earthquake Fault Zoning Act of 1972

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (formerly the Special Studies Zoning Act) regulates the development and construction of buildings intended for human occupancy to avoid hazards associated with surface fault rupture. In accordance with this law, the 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, such as an operations and maintenance building, is subject to review under the Alquist-Priolo Earthquake Fault Zoning Act, and any structures for human occupancy must be located at least 50 feet from any active fault.

Seismic Hazards Mapping Act of 1990

In accordance with Public Resources Code (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. State agencies, Counties, and Cities 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 Building Code

The California Building Code (CBC), which is codified in California Code of Regulations (CCR) Title 24, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, means of egress facilities, and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The 2019 edition of the CBC is based on the 2018 International Building Code (IBC) published by the International Code Council. The code is updated triennially, and the 2019 edition of the CBC was published by the California Building Standards Commission in 2019, and took effect starting January 1, 2020. The 2019 CBC contains California amendments based on the American Society of Civil Engineers (ASCE) Minimum Design Standard ASCE/SEI 7-16, *Minimum Design Loads for Buildings and Other Structures*, provides requirements for general structural design and includes means for determining earthquake loads (which is defined as 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) as well as other loads (such as wind loads) for inclusion into building codes. 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 (1806); and foundations (Section 1808), shallow foundations (Section 1809), and deep foundations (Section 1810). For SDC D, E, and F, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. It also addresses measures to be considered in structural design, which may include ground stabilization, selecting appropriate foundation type and depths, selecting appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions.

Chapter 18 also describes analysis of expansive soils and the determination of the depth to groundwater table. Expansive soils are defined in the CBC as follows:

1803.5.3 Expansive Soil. In areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Soils meeting all four of the following provisions shall be considered expansive, except that tests to show compliance with Items 1, 2 and 3 shall not be required if the test prescribed in Item 4 is conducted:

1. Plasticity index (PI) of 15 or greater, determined in accordance with ASTM D 4318.
2. More than 10 percent of the soil particles pass a No. 200 sieve (75 micrometers), determined in accordance with ASTM D 422.
3. More than 10 percent of the soil particles are less than 5 micrometers in size, determined in accordance with ASTM D 422.
4. Expansion index greater than 20, determined in accordance with ASTM D 4829.

California Code of Regulations Title 27, Section 20370 – Seismic Design

CCR Title 27, Section 20370 requires that Class III landfill facilities be designed to withstand the maximum probable earthquake without damage to the foundation or to the structures that control leachate, surface drainage, erosion, or gas.

Public Resources Code Sections 5097.5 and 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.

California State Regional Water Quality Control Board, Stormwater General Construction Permit

The five-member California State Water Resources Control Board (SWRCB) allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine Regional Water Quality and Control Boards (RWQCBs) in the major watersheds of the state. The joint authority of water allocation and water quality protection enables the SWRCB to provide comprehensive protection for California's waters.

In 1999, the state adopted the NPDES General Permit for Storm Water Discharges Associated with Construction Activities (Construction Activities General Permit) (SWRCB Order No. 2012-0006-DWQ, NPDES No. CAS000002). The General Construction 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 General Construction Permit by submitting a Notice of Intent for coverage, developing an 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 water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in an SWPPP. Enrollment under the General Construction 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.

Local

Construction and operation of the proposed project would be subject to policies and regulations contained within the *Kern County General Plan*, *Kern County Zoning Ordinance*, and *Kern County Code of Building Regulations*, which include policies pertaining to the avoidance of geologic hazards and/or the protection of unique geologic features, as well as policies for the preservation of paleontological resources.

Kern County General Plan

Construction and operation of the project would be subject to policies and regulations contained within the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies pertaining to the avoidance of geologic hazards and/or the protection of unique geologic features, as well as policies for the preservation of paleontological resources. The policies, goals, and implementation measures in the *Kern County General Plan* for geology and soils that are applicable to the project are provided below. The *Kern County General Plan* contains additional policies, goals, and implementation measures that are more general in nature and not specific to development, such as the project. These measures are not listed below, but as stated in Chapter 2, *Introduction*, all policies, goals, and implementation measures in the *Kern County General Plan* are incorporated by reference.

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

Implementation 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.

Implementation Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.10 General Provisions

1.10.3 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

Implementation 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

Implementation Measure B: Require geological and soils engineering investigations in identifying significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.

Implementation Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.

4.5 Landslides, Subsidence, Seiche, and Liquefaction

Policies

Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.

Implementation Measures

Implementation 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.

Kern County Code of Building Regulations (Title 17 of the Ordinance Code of Kern County)

All construction in Kern County is required to conform to the Kern County Building Code (Chapter 17.08, Building Code, of the Kern County Code of Regulations). Kern County has adopted the CBC, 2016 Edition (CCR Title 24), with some modifications and amendments. The entire County is in Seismic Zone 4, a designation previously used in the Uniform Building Code (UBC) to denote the areas of highest risk for earthquake ground motion. California has an unreinforced masonry program that details seismic safety requirements for Zone 4. Seismic provisions associated with Seismic Zone 4 have been adopted.

Kern County Grading Code Chapter 17.28

The purpose of the Kern County Grading Code is to safeguard life, limb, property, and the public welfare by regulating grading on private property. All requirements of the Kern County Grading Code would be applied during implementation of the project. All required grading permit(s) would be obtained prior to commencement of construction activities. Sections of the Grading Code that are particularly relevant to geology and soils are provided below.

Section 17.28.140 – Erosion Control

- A. **Slopes.** The faces of cut-and-fill slopes shall be prepared and maintained to control erosion. This control may consist of effective planting. Protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.
- B. **Other Devices.** Where necessary, check dams, cribbing, riprap, or other devices or methods shall be employed to control erosion and provide safety.
- C. **Temporary Devices.** Temporary drainage and erosion control shall be provided as needed at the end of each work day during grading operations, such that existing drainage channels would not be blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust nuisance. Deposition of rocks, earth materials or debris onto adjacent property, public roads or drainage channels shall not be allowed.

Section 17.28.170 – Grading Inspection

- A. **General.** All grading operations for which a permit is required shall be subject to inspection by the building official. Professional inspection of grading operations and testing shall be provided by the civil engineer, soils engineer, and the engineering geologist retained to provide such services in accordance with Subsection 17.28.170(E) for engineered grading and as required by the building official for regular grading.
- B. **Civil Engineer.** The civil engineer shall provide professional inspection within such engineer's area of technical specialty, which shall consist of observation and review as to the establishment of line, grade, and surface drainage of the development area. If revised plans are required during the course of the work they shall be prepared by the civil engineer.
- C. **Soils Engineer.** The soils engineer shall provide professional inspection within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The soils engineer shall provide sufficient observation during the preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. Revised recommendations relating to conditions differing from the approved soils engineering and engineering geology reports shall be submitted to the permittee, the building official and the civil engineer.
- D. **Engineering Geologist.** The engineering geologist shall provide professional inspection within such engineer's area of technical specialty, which shall include professional inspection of the bedrock excavation to determine if conditions encountered are in conformance with the approved report. Revised recommendations relating to conditions differing from the approved engineering geology report shall be submitted to the soils engineer.
- E. **Permittee.** The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this Code, and the permittee shall engage consultants, if required, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the consultants, the contractor and the building official. In the event of changed conditions, the permittee shall be responsible for informing the building official of such change and shall provide revised plans for approval.
- F. **Building Official.** The building official may inspect the project at the various stages of the work requiring approval to determine that adequate control is being exercised by the professional consultants.

- G. **Notification of Noncompliance.** If, in the course of fulfilling their responsibility under this chapter, the civil engineer, the soils engineer, or the engineering geologist finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately in writing to the permittee and to the building official. Recommendations for corrective measures, if necessary, shall also be submitted.
- H. **Transfer of Responsibility.** If the civil engineer, the soils engineer, or the engineering geologist of record is changed during the course of the work, the work shall be stopped until:
1. The civil engineer, soils engineer, or engineering geologist, has notified the building official in writing that they will no longer be responsible for the work and that a qualified replacement has been found who will assume responsibility.
 2. The replacement civil engineer, soils engineer, or engineering geologist notifies the building official in writing that they have agreed to accept responsibility for the work.

Kern County Water Quality Control Plan

Each of the nine RWQCBs adopts a Water Quality Control Plan which recognizes and reflects regional differences in existing water quality, the beneficial uses of the region's groundwater and surface waters, and local water quality conditions and problems. Water quality problems in the regions are listed in these plans, along with the causes, if they are known. Each RWQCB is to set water quality objectives that will ensure the reasonable protection of beneficial uses and the prevention of nuisance, with the understanding that water quality can be changed somewhat without unreasonably affecting beneficial uses.

The Kern County Public Works Department requires the completion of an NPDES applicability form for projects with construction disturbing one-acre or more within Kern County. This form requires the applicant to provide background information on construction activities and to identify whether stormwater runoff has the potential of discharging into waters of the United States, be contained on-site, or discharge indirectly off-site to a river, lake, stream, or off-site drainage facility. Should stormwater runoff be contained on-site and not discharge into any waters, no special actions are required. Should stormwater runoff discharge into waters of the United States, compliance with the SWRCB Construction General Permit is required, which requires preparation of an SWPPP. Should stormwater runoff not drain to waters of the United States (e.g., drains to a terminal drainage facility), the applicant would be required to develop an SWPPP and BMPs. Projects disturbing at least 1 acre of soil in Kern County are required to apply for a County NPDES Storm Water Program Permit. Prior to issuance of the permit, Kern County Engineering, Surveying and Permit Services must verify the applicant's stormwater plans. Applicants must apply for the permit under one of the following four conditions:

1. All stormwater is retained on-site and no 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 stormwater runoff is not retained on site, but does not discharge to a Water of the United States (i.e., drains to a terminal drainage facility). Therefore, an SWPPP has been developed and BMPs must be implemented.
3. All stormwater runoff is not retained on site, and the discharge is to a Water of the United States. Therefore, a Notice of Intent (NOI) must be filed with the State Regional Water Resources Control Board prior to issuance of the building permit. Also, an SWPPP has been developed and BMPs must be implemented.
4. Construction activity is between 1 and 5 acres and an Erosivity Waiver was granted by the SWRCB. BMPs must be implemented.

4.6.4 Impacts and Mitigation Measures

This section evaluates the impacts to geology and soils that may occur during construction and operation of the project. It describes the potential geologic and soil resources located on and adjacent to the project sites 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, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

The analysis in this section considered potential impacts associated with geology and soils issues identified in the *Kern County Environmental Checklist*. Potential significant impacts associated with the project sites were identified based on an analysis of applicable *Kern County General Plan* policies, the *Landfill Cap Elevation and Design and Geotechnical Evaluation of Proposed Vertical Expansion for the H.M. Holloway Solid Waste Facility* (ES Engineering Services 2017), the *Addendum to Report, Geotechnical Evaluation of Proposed Composting Facility Lost Hills Composting Project* (NOVA Geotechnical and Inspection Services 2020), and the *Geology and Soils Review in Support of Compost Facility Permitting, Lost Hills Environmental, LLC Compost Site* (BSK Associates 2019), as well as data from the *Kern County General Plan*, CGS, NRCS, and various other publicly available data sources.

The loss of any identifiable fossil that could yield information important to prehistory, or that embodies the distinctive characteristics of a type of organism, environment, period of time, or geographic region, would be a significant environmental impact. Direct impacts to paleontological resources primarily concern the potential destruction of nonrenewable paleontological resources and the loss of information associated with these resources. This includes the unauthorized collection of fossil remains. If potentially fossiliferous bedrock or surficial sediments are disturbed, the disturbance could result in the destruction of

paleontological resources and subsequent loss of information (significant impact). At the project-specific level, direct impacts can be mitigated to a less-than-significant level through the implementation of mitigation for paleontological resources.

The CEQA threshold of significance for a significant impact to paleontological resources is reached when a project is determined to “directly or indirectly destroy a significant paleontological resource or unique geologic feature.” In general, for projects that are underlain by paleontologically sensitive geologic units, the greater the amount of ground disturbance, the higher the potential for significant impacts to paleontological resources. For projects that are directly underlain by geologic units with no paleontological sensitivity, there is no potential for impacts on paleontological resources unless sensitive geologic units which underlie the non-sensitive unit are also affected.

The proposed expansion of waste streams allowed for disposal at the landfill facility and the modification to the hours of operation would not result in new ground disturbance which could result in impacts related to geology or soils; therefore, the impact discussion below focuses on impacts associated with construction and operation of the proposed composting and bioenergy facilities.

Thresholds of Significance

The Kern County Environmental Checklist identifies 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 on geology and soils. The Kern County Environmental Checklist states that a project would normally be considered to have a significant impact related to 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 (refer to Division of Mines and Geology Special Publication 42);
 - ii. Strong seismic groundshaking;
 - iii. Seismic-related ground failure, including liquefaction; or,
 - iv. Landslides.
- b. Result in substantial soil erosion or loss of topsoil;
- c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property;

- e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems 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 and Mitigation Measures

Impact 4.6-1(a): The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.

eASP Composting Facility and Bioenergy Facility

The project sites are in a historically seismic area and are situated between several active faults, including the Poso Creek Fault (located approximately 22 miles east), San Andreas Fault (located approximately 18 miles southwest), San Juan Fault (located approximately 26 miles southwest), and the La Panza Fault (located approximately 42 miles southwest). However, the project sites are not located within a State of California Alquist-Priolo Earthquake Fault Zone. Therefore, given that no known active faults cross the project sites the potential for fault rupture would be low, and impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.6-1(b): 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.

As described above, the project sites are located in a highly seismic region within the influence of several fault systems, including the Poso Creek, San Andreas, San Juan, and the La Panza Faults, which are all capable of generating ground motions that could affect the project area. Seismic ground shaking could compromise the integrity of the composting facility and/or the bioenergy facility, resulting in potentially significant impacts to people or structures.

eASP Composting Facility

The project proponent is required to design the composting facility in accordance with 27 CCR Section 20370. Section 20370 requires that waste management units be designed to withstand the maximum credible earthquake without damage to the foundation or to the structures that control leachate, surface drainage, erosion, or gas. Prior to the issuance of grading permits, the

project proponent would be required to retain a licensed geotechnical engineer to design the project to withstand probable seismic ground shaking at the site. All ground disturbance would be required to adhere to the specifications, procedures, and site conditions contained in the final design plans, which would be fully compliant with the seismic recommendations by the California licensed professional geotechnical engineer in accordance with the CBC and Kern County Building Code requirements. A copy of the approved design would be submitted to the Kern County Planning and Natural Resources Department. Adherence to the requirements of the Kern County Building Code, the ICB, the CBC, and Mitigation Measures MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6-4 (COM, BEF), and MM 4.6-5 (COM, BEF) would ensure that seismic hazards would be minimized. The composting facility would be constructed in accordance with all applicable codes, which require property line and public roadway setbacks that would protect the general public and on-site staff from potential hazards associated with the facility that could result from an earthquake. Thus, with implementation of the above-described measures, project structures and personnel present during the construction and operational phases of the project would not be exposed to substantial adverse effects, including the risk of loss, injury, or death resulting from strong seismic ground shaking and impacts would be less than significant with mitigation.

Bioenergy Facility

The project proponent would be required to design project components associated with the bioenergy facility to withstand substantial ground shaking in accordance with applicable CBC seismic design standards, Kern County Building Code Chapter 17.08 standards, and as recommended by a California licensed professional geotechnical engineer. Furthermore, Mitigation Measures MM 4.6-1 (COM, BEF), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), and MM 4.6-6 (BEF) would be implemented, as described below, and would require the grading area to be limited and preparation of a geotechnical evaluation and final design plans by a California-registered professional geotechnical engineer. Compliance with the applicable CBC seismic design standards and implementation of Mitigation Measures MM 4.6-1 (COM, BEF), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), and MM 4.6-6 (BEF), would reduce potentially significant impacts from ground shaking on people and structures to less than significant.

Mitigation Measures

- MM 4.6-1** (COM, BEF) The project proponent shall limit grading to the minimum area necessary for construction. Prior to the initiation of construction, the project proponent shall retain a California-registered professional engineer to approve the final grading earthwork plans prior to construction.
- MM 4.6-2** (COM) The project proponent shall determine the final siting of the composting facility based on the results of the geotechnical studies already completed for the composting site and implement recommended measures to minimize geologic hazards. The project proponent shall not locate project facilities on or immediately adjacent to a fault trace. All structures shall be offset at least 100 feet from any mapped fault trace. Alternatively, a detailed fault-trenching investigation may be performed to accurately locate the fault

trace(s) to avoid siting habitable structures on or close to these fault structures and to evaluate the risk of fault rupture. After locating the fault, accurate setback distances can be proposed.

MM 4.6-3 (COM) The Kern County Public Works Department shall evaluate any final facility siting design developed prior to the issuance of any building or grading permits to verify that geological constraints have been avoided.

MM 4.6-4 (COM, BEF) Prior to the issuance of grading permits, the project proponent shall retain a California-registered professional geotechnical engineer to design the project facilities to withstand probable seismically induced ground shaking at the site, if applicable as determined by the Kern County Public Works Department.

- a. 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 procedures and site conditions shall encompass site preparation, foundation specifications, and protection measures for buried metal.
- b. The final structural design shall be subject to approval and follow-up inspection by the Kern County Public Works Department. Final design requirements shall be provided to the on-site construction supervisor and Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the Kern County Planning and Natural Resources Department.

MM 4.6-5 (COM, BEF) Prior to the issuance of grading permits, a geotechnical evaluation, consisting of field exploration (drilling and soil sampling), laboratory testing of soil samples, and engineering analysis, if applicable as determined by the Kern County Public Works Department, shall be prepared to determine soil properties related, but not limited, to ground-motion acceleration parameters, the amplification properties of the subsurface units at the specific site, the potential for hydrocompaction to affect the proposed facilities, and the potential for collapsible, subsiding, or expansive soils to affect the proposed facilities.

These studies shall be used to determine the appropriate engineering for foundations and support structures as well as building requirements to minimize geotechnical hazard impacts. Copies of all analyses shall be submitted to the Kern County Public Works Department for review and approval. An approved copy of the evaluation shall be submitted to the Kern County Planning and Natural Resources Department.

MM 4.6-6 (BEF) Prior to the issuance of building or grading permits for the project, the project proponent shall conduct a full geotechnical study for the proposed

bioenergy facility, if applicable as determined by the Kern County Public Works Department, 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.

- a. The geotechnical study must be signed by a California-registered professional engineer and must identify the following:
 1. Location of fault traces and potential for surface rupture and ground shaking potential;
 2. Maximum considered earthquake and associated ground acceleration;
 3. Potential for seismically induced liquefaction, landslides, differential settlement, and mudflows;
 4. Stability of any existing or proposed cut-and-fill slopes;
 5. Collapsible or expansive soils;
 6. Foundation material type;
 7. Recommendations for placement and design of facilities, foundations, and remediation of unstable ground;
 8. Location and description of unprotected drainage that could be impacted by the proposed development; and
 9. Recommendations for placement and design of facilities, foundations, and remediation of unstable ground.
- b. The project proponent shall determine the final siting of the bioenergy facility based on the results of the geotechnical studies and implement recommended measures to minimize geologic hazards. The project proponent shall not locate project facilities on or immediately adjacent to a fault trace. All structures shall be offset at least 100 feet from any mapped fault trace. Alternatively, a detailed fault-trenching investigation may be performed to accurately locate the fault trace(s) to avoid siting habitable structures on or close to these fault structures and to evaluate the risk of fault rupture. After locating the fault, accurate setback distances can be proposed.
- c. The Kern County Public Works Department shall evaluate any final facility siting design developed prior to the issuance of any building or grading permits to verify that geological constraints have been avoided.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), and MM 4.6-6 (BEF), impacts related to ground shaking would be reduced to a less-than-significant level.

Impact 4.6-1(c): The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.

As described above, seismically-induced liquefaction occurs when loose, water-saturated sediments of relatively low density are subjected to cyclic shaking that causes soils to lose strength or stiffness because of increased pore water pressure. Liquefaction generally occurs when the depth to groundwater is less than 50 feet.

eASP Composting Facility

Based on the geotechnical report prepared for Site A, the groundwater depth is approximately 150 to 300 feet below ground surface (ES Engineering 2017). While laterally discontinuous perched groundwater zones were identified approximately 30 feet below ground surface, these shallow perched zones do not contain sufficient volume to generate a liquefaction concern (ES Engineering 2017). Thus, the potential for liquefaction is low and impacts would be less than significant.

Bioenergy Facility

Given the proximity of Sites A and B and location outside of a designated zone of shallow groundwater, it is likely that the liquefaction potential would be similar at both sites. However, site-specific geotechnical analysis is needed to confirm the presence of groundwater and liquefaction potential. Implementation of Mitigation Measure MM 4.6-6 (BEF) would require preparation of a full geotechnical study for the proposed bioenergy facility to evaluate soil conditions and geologic hazards on the project site and implementation of all recommended measures to minimize geologic hazards, such as liquefaction.

The project proponent would also be required by State law to comply with all applicable IBC and CBC earthquake construction standards, including those relating to soil characteristics. Building code requirements may include, but are not limited to, ground stabilization, selection of appropriate foundation type and depths, selection of appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. Adherence to all applicable regulations and implementation of Mitigation Measure MM 4.6-6 (BEF) would avoid potential impacts resulting from liquefaction at the project site. Therefore, impacts would be less than significant with mitigation.

Mitigation Measures

Implement Mitigation Measure MM 4.6-6 (BEF).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.6-6 (BEF), impacts related to liquefaction would be reduced to a less-than-significant level.

Impact 4.6-1(d): The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

eASP Composting Facility

As described above, Site A is located on flat to gently sloping terrain. The site is not designated as a landslide hazard zone in the Kern County General Plan *Safety Element* or on the Land Use Map in the *Land Use Open Space and Conservation Element*. Further, the geotechnical report for the proposed composting facility found that the 3:1 slope ratio associated with the existing landfill would be stable under seismic conditions (ES Engineering 2017). Therefore, implementation of the composting facility would not result in adverse effects related to landslides; impacts would be less than significant.

Bioenergy Facility

As described above, the project is located on flat to gently sloping terrain, and the likelihood of landslides is very low. The site is not designated as a landslide hazard zone in the *Safety Element* or on the Land Use Map in the Kern County General Plan's *Land Use Open Space and Conservation Element*. Therefore, construction and operation of the bioenergy facility would not result in adverse effects related to landslides; impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.6-2: The project would result in substantial soil erosion or the loss of topsoil.

eASP Composting Facility

Construction

Construction of the composting facility would result in grading, excavation, and other ground disturbance. These activities have the potential to cause increased runoff, erosion, and sedimentation that would not otherwise occur at the project site. As previously discussed, the soil types present within Site A are susceptible to erosion. As such, proposed grading and

excavation activities may expose soils to wind and water erosion during construction activities, which could result in a potentially significant impact.

As described in Section 4.2, *Air Quality*, the disturbance of soils during construction and the high wind forces could result in wind erosion and fugitive dust. However, the project proponent would be required to comply with applicable San Joaquin Valley Air Pollution Control (SJVAPCD) fugitive dust control measures, which would reduce wind erosion. Further, as described in Section 4.2, *Air Quality*, the composting facility would be required to implement Mitigation Measures MM 4.2-2 (COM, BEF) and MM 4.2-3 (COM, BEF), which would reduce fugitive dust emissions by requiring implementation of a fugitive dust control plan and fugitive dust control measures.

Since the project would not contain all stormwater runoff on-site during construction, a SWPPP would be prepared and implemented per the requirements of the NPDES General Construction Permit Program. The SWPPP would detail that existing vegetation and topography are to be preserved to the maximum extent possible. The SWPPP would also specify BMPs, including erosion control BMPs to prevent soil from moving offsite. All temporary erosion control measures required by the Kern County Grading Code (Section 17.28.140) would be incorporated into the SWPPP, as required by Mitigation Measure MM 4.6-7 (COM, BEF). In addition, per Mitigation Measure MM 4.6-8 (COM, BEF), the project proponent would be required to submit grading plans accompanied by a soils engineering report, engineering geology report, and drainage calculations pursuant to the Kern County Grading Code (Section 17.28.070) to the Kern County Public Works Department in order to obtain required grading permits. As a result, project construction would have less-than-significant impacts related to erosion with implementation of Mitigation Measures MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.6-7 (COM, BEF), and MM 4.6-8 (COM, BEF).

Compliance with the NPDES program, SJVAPCD regulations governing fugitive dust, and the Kern County Grading Code, and prescribed mitigation measures would ensure that substantial erosion or the loss of topsoil does not occur, and impacts would be less than significant.

Operation

Operation of the composting facility would occur in an area currently occupied by an existing landfill. Activities would be similar in nature to those currently conducted on-site at the existing landfill. No new impervious surfaces associated with the composting facility would be developed. As a result, operation of the composting facility would not result in substantial soil erosion or the loss of topsoil, and impacts would be less than significant.

Bioenergy Facility

Construction

Construction of the bioenergy facility would require grading, excavation, and other ground disturbance. These activities have the potential to cause increased runoff, erosion, and sedimentation that would not otherwise occur at Site B. As previously discussed, the soil types present within Site B are susceptible to erosion. As such, proposed grading/excavation may

expose soils to wind and water erosion during construction activities, which could result in potentially significant impacts.

As described in Section 4.2, *Air Quality*, the disturbance of soils during construction and the high wind forces could result in wind erosion and fugitive dust. However, the project proponent would be required to comply with applicable SJVAPCD fugitive dust control measures, which would reduce wind erosion. Further, as described in Section 4.2, *Air Quality*, the project proponent would be required to implement Mitigation Measures MM 4.2-2 (COM, BEF) and MM 4.2-3 (COM, BEF), which would reduce fugitive dust emissions by requiring implementation of a fugitive dust control plan and fugitive dust control measures.

Since the project would not contain all stormwater runoff on-site during construction, a SWPPP would be prepared and implemented per the requirements of the NPDES General Construction Permit Program. The SWPPP would detail that existing vegetation and topography are to be preserved to the maximum extent possible. The SWPPP would also specify BMPs, including erosion control BMPs to prevent soil from moving offsite. All temporary erosion control measures required by the Kern County Grading Code (Section 17.28.140) would be incorporated into the SWPPP, as required by Mitigation Measure MM 4.6-7 (COM, BEF). In addition, per Mitigation Measure MM 4.6-8 (COM, BEF), the project proponent would be required to submit grading plans accompanied by a soils engineering report, engineering geology report, and drainage calculations pursuant to the Kern County Grading Code (Section 17.28.070) to the Kern County Public Works Department in order to obtain required grading permits. As a result, project construction would have less-than-significant impacts related to erosion with implementation of Mitigation Measures MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.6-7 (COM, BEF), and MM 4.6-8 (COM, BEF).

Compliance with the NPDES program, SJVAPCD regulations governing fugitive dust, the Kern County Grading Code, and prescribed mitigation measures would ensure that substantial erosion or the loss of topsoil does not occur, and impacts would be less than significant with mitigation.

Operation

Operation of the bioenergy facility would result in new impervious surfaces created within Site B; however, the area would generally be comprised of engineered and impervious surfaces associated with the bioenergy facility that are resistant to erosion. As such, operation of the bioenergy facility would not cause substantial erosion or the loss of topsoil, and impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.2-2 (COM, BEF) and MM 4.2-3 (COM, BEF) (see Section 4.2, *Air Quality*, for mitigation measures), in addition to the mitigation measures listed below.

MM 4.6-7 (COM, BEF) The construction contractor shall incorporate best management practices consistent with the National Pollutant Discharge Elimination System General Construction Permit Program for all construction projects that would not retain all stormwater on-site and the Kern County Grading Code. The project proponent shall prepare an Erosion and Sedimentation Control Plan as well as a Stormwater Pollution Prevention Plan. The Stormwater Pollution Prevention Plan shall be prepared by a Qualified Stormwater Pollution Prevention Plan Developer and submitted for review and approval by the applicable Regional Water Quality Control Board. The Stormwater Pollution Prevention Plan best management practices shall include, but not be limited to, the following:

- a. Scheduling to avoid ground disturbance during rain events to the maximum extent possible;
- b. Preservation of existing vegetation and topography to the maximum extent practicable;
- c. Stabilized construction entrances and exits;
- d. Erosion control (including all pertinent temporary erosion control practices as specified in Chapter 17.28.140 of the Kern County Grading Code), such as mulching, temporary drains and cullies, sandbag barrier, geotextiles and mats, silt fences, brush or rock filters, earth dikes, straw bale barriers, and sediment traps;
- e. Sediment control;
- f. Waste management;
- g. Good housekeeping; and
- h. Post-construction site stabilization.

Prior to initial construction mobilization, preconstruction surveys shall be performed and sediment and erosion controls shall be installed in accordance with the approved Stormwater Pollution Prevention Plan. A copy of the approved Stormwater Pollution Prevention Plan shall be submitted to the Kern County Planning and Natural Resources Department.

MM 4.6-8 (COM, BEF) Prior to construction, the project proponent shall submit grading plans accompanied by a soils engineering report, engineering geology report, and drainage calculations pursuant to the Kern County Grading Code (Section 17.28.070) to the Kern County Public Works Department in order to obtain required grading permits.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.6-7 (COM, BEF), and MM 4.6-8 (COM, BEF), impacts would be less than significant.

Impact 4.6-3: The project would be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

eASP Composting Facility

As discussed above, Site A consists of flat to gently sloping topography. Liquefaction is analyzed above in Impact 4.6-1(d), which concluded that the potential for liquefaction is low, and impacts would be less than significant. Landslide risk is analyzed above in Impact 4.6-1(d), which concluded that the potential for landslides is low, and impacts would be less than significant.

Because the soils at Site A are not likely to trigger liquefaction, Site A is located on flat to gently sloping terrain, and the geotechnical study conducted for Site A did not identify any other geologic hazards that could affect soil stability, the potential for lateral spreading, collapse, and subsidence is low. Therefore, impacts resulting from unstable soils leading to lateral spreading, collapse, and subsidence would be less than significant.

Bioenergy Facility

As discussed above, the proposed bioenergy facility site (Site B) is located on flat to gently sloping topography. Liquefaction is analyzed above in Impact 4.6-1(d), which concluded that, although the potential for liquefaction is low, site-specific geotechnical analysis is needed to confirm the presence of groundwater depth and liquefaction potential. As such, Mitigation Measure MM 4.6-6 (BEF) is provided to require a full geotechnical study to evaluate soil conditions and geologic hazards on the project site and implementation of all recommended measures to minimize geologic hazards, such as liquefaction. Mitigation Measure MM 4.6-6 (BEF) would also require an analysis of soil conditions to determine the potential for unstable soils leading to lateral spreading, collapse, and subsidence. With implementation of Mitigation Measure MM 4.6-6 (BEF), impacts resulting from liquefaction and unstable soils leading to lateral spreading, collapse, and subsidence would be less than significant.

Landslide risk is analyzed above in Impact 4.6-1(d), which concluded that the potential for landslides is low, and impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measure MM 4.6-6 (BEF).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.6-6 (BEF), impacts would be less than significant.

Impact 4.6-4: The project would be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (1994), creating substantial risks to life or property.

eASP Composting Facility and Bioenergy Facility

As discussed above, expansive soils are fine-grained soils (generally high plasticity clays) that can undergo a significant increase in volume with an increase in water content and a significant decrease in volume with a decrease in water content. Changes in the water content of a highly expansive soil can result in severe distress to structures constructed on or against the soil. The expansion potential of on-site soils is classified as low (NRCS 2009; BSK Associates 2019). Therefore, construction and operation of the composting facility and bioenergy facility would not be located on expansive soils. However, Mitigation Measure MM 4.6-6 (BEF) requires that a geotechnical study to evaluate soil conditions and geologic hazards be performed by a qualified geotechnical engineer for Site B. Mitigation Measure MM 4.6-6 (BEF) requires that a California geotechnical engineer include an evaluation for expansive soils and provide recommendations consistent with CBC requirements to reduce potential adverse effects from expansive soils.

All grading and construction on-site would adhere to the specifications, procedures, and site conditions contained in the final design plans, which would be fully compliant with the recommendations provided by the California-registered professional engineer in accordance with California and Kern County Building Code requirements for both the composting and bioenergy facilities, per Mitigation Measure MM 4.6-1 (COM, BEF). The required measures would encompass site preparation, such as treatment of expansive soils or replacement with engineered fill. The final designs would be subject to approval and follow-up inspection by the Kern County Building Inspection Department. Final design requirements would be provided to the on-site construction supervisor and the Kern County Building Inspector to ensure compliance. Therefore, with implementation of Mitigation Measures MM 4.6-1 (COM, BEF) and MM 4.6-6 (BEF), impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.6-1 (COM, BEF) and MM 4.6-6 (BEF).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.6-1 (COM, BEF) and MM 4.6-6 (BEF), impacts would be less than significant.

Impact 4.6-5: The project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

eASP Composting Facility

No septic tanks or alternative wastewater disposal systems would be constructed within the site associated with the composting facility (Site A); therefore, no impacts would occur.

Bioenergy Facility

The bioenergy facility site (Site B) is currently served by an alternative wastewater disposal system associated with office buildings located north of Site B. A new septic system and leach field would be installed to serve the bioenergy facility. The on-site wastewater treatment and disposal facilities would be required to comply with the minimum standards for design through the CBC (CCR Title 24), which includes standards for septic tanks and seepage pits in Chapter 8.60, as well as the Kern County New Development Standards, to ensure that soils are capable of adequately supporting the use of on-site wastewater treatment and disposal facilities. Therefore, impacts associated with the development and operation of on-site wastewater facilities would be less than significant with the implementation of Mitigation Measure MM 4.6-9 (BEF).

Mitigation Measures

MM 4.6-9 (BEF) Prior to the issuance of permits for the bioenergy facility, the project proponent must provide evidence to the Kern County Planning and Natural Resources Department that the Kern County Public Health Services Department approves of proposed septic design plans and leach fields that comply with the California Building Code (California Code of Regulations Title 24), which includes standards for septic tanks and seepage pits in Chapter 8.60, as well as the Kern County New Development Standards, and that a site-specific analysis of soil permeability shall be performed by a California-licensed geotechnical engineer that demonstrates project soils can adequately support the use of a septic disposal system.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.6-9 (BEF), impacts would be less than significant.

Impact 4.6-6: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

The project sites are underlain by Quaternary alluvium. Younger Quaternary alluvium is typically not paleontologically sensitive; however, it may be underlain by older Quaternary alluvium, which has moderate potential to contain paleontological resources.

eASP Composting Facility

The composting facility would be located on a portion of an existing landfill that has reached capacity. Excavation would not extend below the depth of the existing landfill. Construction and operation of the composting facility is not expected to impact sensitive paleontological resources; however, in the event that paleontological resources are discovered during ground disturbance, implementation of Mitigation Measure MM 4.6-12 (COM, BEF) would reduce potential impacts to less than significant.

Bioenergy Facility

If grading depths extend into older alluvium deposits (depth to be confirmed following development of the geotechnical engineering study prepared under Mitigation Measure MM 4.6-6 (BEF), significant vertebrate fossils may be encountered. Disturbance of such resources would result in a potentially significant impact to paleontological resources. Therefore, Mitigation Measures MM 4.6-10 (BEF), MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF) would require implementation of a Paleontological Resources Awareness Training program, paleontological monitoring when ground-disturbing activities would disturb native soils, and cessation of ground-disturbing activities if a paleontological resource is found. With implementation of Mitigation Measures MM 4.6-10 (BEF), MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF), impacts would be less than significant.

Mitigation Measures

MM 4.6-10 (BEF) The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (Society for Vertebrate Paleontology 2010), to carry out all mitigation measures related to paleontological resources. The qualified paleontologist and the Lead Archaeologist may be the same individual:

- 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 the qualified paleontologist shall be provided to all personnel. A copy of the Paleontological Resources Awareness Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form.
- b. The Paleontological Resources Awareness Training may be conducted in conjunction with the archaeological resources training required by Mitigation Measure MM 4.4-1 (BEF) included in Section 4.4, *Cultural Resources*.
- 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 fossil collecting or intentional disturbance of paleontological resources.

- d. The project operator shall ensure all new on-site construction personnel who have not participated in earlier Paleontological Resources Awareness Trainings shall meet the provisions specified above.
- e. The Paleontological Resources Awareness Training Guides shall be kept available for all personnel to review and be familiar with, as necessary.

MM 4.6-11 (BEF) During construction activities, a qualified paleontologist shall be retained to monitor all ground-disturbing activities conducted within native soils (depth to be determined by geotechnical report prepared under Mitigation Measure MM 4.6-6 (BEF)). The duration and timing of monitoring shall be determined by the qualified paleontologist in consultation with the Kern County Planning and Natural Resources Department and based on a review of geologic maps and grading plans. During the course of monitoring, if the paleontologist can demonstrate, based on observations of subsurface conditions, that the level of monitoring should be reduced, the paleontologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of monitoring to circumstances, as warranted.

MM 4.6-12 (COM, BEF) During implementation of the project, if a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the significance of the resource(s) and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.6-10 (BEF), MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF), impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative Setting

Section 3.8, *Cumulative Effects Overview*, of this EIR discusses cumulative projects located within a 6-mile radius of the proposed project, as well as all similar (i.e., landfill, composting and/or bioenergy) projects within Kern County. **Table 3-15, Cumulative Projects List**, in Chapter 3 lists specific projects considered in the cumulative impact analysis. The geographic scope for considering cumulative impacts with regard to geology and soils includes the extent of the project sites because impacts to geology and soils are generally site specific. Impacts of the project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects.

Impact 4.6-7: The project would contribute to cumulative geology and soil resource impacts.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The project sites are located in a seismically active area. Cumulative projects listed in **Table 3-15, Cumulative Projects List**, would all be required to comply with Kern County standards as well as the CBC and UBC to minimize the potential for cumulative impacts associated with seismic hazards. In addition, the effects of these projects are not considered to result in cumulatively significant effects from impacts to geology or soils because such impacts are site specific and would only have the potential to combine with impacts of the project if they occurred in the same location as the project. None of the cumulative projects would be located on or adjacent to the project sites. As such, cumulative impacts resulting from seismic events and soil conditions are not anticipated to increase on a cumulative level.

Impacts related to erosion and sediment deposition can be cumulative in nature if affecting a watershed. Cumulative impacts to water quality are addressed in Section 4.9, *Hydrology and Water Quality*, of this EIR. Buildout of approved and planned uses in Kern County has the potential to result in erosion and the loss of topsoil; however, individual projects are required to comply with applicable codes, standards, and permitting requirements (i.e., preparation of a SWPPP or approval of a Notice of Non-Applicability to mitigate erosion impacts). If the proposed project discharges stormwater, the proposed project would mitigate associated erosion impacts through implementation of a SWPPP and associated BMPs. Impacts associated with erosion are mitigated on a project-by-project basis, which would reduce the overall cumulative impact to a less-than-significant level.

Implementation of Mitigation Measures MM 4.2-2 (COM, BEF) and MM 4.2-3 (COM, BEF) (see Section 4.2, *Air Quality*, for mitigation measures), MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), and MM 4.6-8 (COM, BEF) would reduce potential impacts associated with seismic hazards and soil erosion resulting from the proposed project; therefore, cumulative impacts are not considered cumulatively considerable.

Implementation of Mitigation Measure MM 4.6-9 (BEF) would ensure that the project proponent provides evidence to the Kern County Planning and Natural Resources Department that the Kern County Public Health Services Department approves of proposed septic design plans and leach fields that comply with the California Building Code (CCR Title 24). Therefore, cumulative impacts on soils supporting septic tanks or alternative wastewater disposal systems would not be cumulatively considerable.

Cumulative impacts to paleontological resources in the project area could occur if other related projects, in conjunction with the proposed project, had or would result in impacts to paleontological resources that, when considered together, would be significant. Development of the proposed project, in combination with the other cumulative projects in the area, have the potential to contribute to a cumulatively significant paleontological resources impact due to the potential loss of paleontological resources unique to the region. However, Mitigation Measures MM 4.6-10 (BEF), MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF) are included in this EIR to reduce potentially significant project impacts to paleontological resources during construction of the proposed composting and bioenergy facilities. Implementation of these mitigation measures would reduce potential impacts to paleontological resources to a less-than-significant level. Other cumulative projects would be required to follow similar protocols as the proposed project regarding paleontological monitoring and the avoidance of paleontological resources. Given the requirement for similar mitigation for the other cumulative projects, cumulative impacts to paleontological resources are not considered cumulatively considerable. Therefore, cumulative impacts would be less than significant with mitigation.

Mitigation Measures

Implement Mitigation Measures MM 4.2-2 (COM, BEF) and MM 4.2-3 (COM, BEF) (see Section 4.2, *Air Quality*, for mitigation measures), MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), MM 4.6-9 (BEF), MM 4.6-10 (BEF), MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.2-2 (COM, BEF) and MM 4.2-3 (COM, BEF) (see Section 4.2, *Air Quality*, for mitigation measures), MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6-4 (COM, BEF) through MM 4.6-8 (COM, BEF), MM 4.6-9 (BEF) through MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF), cumulative impacts would be less than significant.

Greenhouse Gas Emissions

4.7.1 Introduction

This section of the Environmental Impact Report (EIR) describes the affected environment and regulatory setting for greenhouse gases (GHG) and global climate change. It also describes the GHG and global climate change impacts that would result from implementation of the project along with mitigation measures that would reduce impacts, where applicable. This section is based on the *Lost Hills Composting and Waste to Energy Projects Air Quality and GHG Technical Report* (Yorke Engineering, LLC 2020), included in Appendix B of this EIR. The impact assessment for the project is also based upon a review of relevant literature and technical reports that include, but are not limited to, information and guidelines by the California Air Resources Board (CARB), U.S. Environmental Protection Agency (USEPA), and the applicable provisions of the California Environmental Quality Act (CEQA).

The proposed establishment of a composting facility would be subject to new state mandates to reduce GHG emissions, including methane from solid waste management activities, by reducing the volume and type of wastes disposed of in landfills, and increasing the volume of wastes that are composted and reused. The State of California continues to pass legislation directing more diversion from landfills, which results in a higher demand for resource recovery, recycling, and composting.

4.7.2 Environmental Setting

GHGs and climate change are a cumulative global issue. The California Air Resources Board (CARB) and U.S. Environmental Protection Agency (USEPA) regulate GHG emissions within the State of California and the United States, respectively. While the CARB has the primary regulatory responsibility within California for GHG emissions, local agencies can also adopt policies for GHG emission reduction. The CARB has divided California into regional air basins. The project is in unincorporated Kern County, which is within the San Joaquin Valley Air Basin (SJVAB), and under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD).

Climate Change

In the early 1960s, scientists recognized that carbon dioxide (CO₂) levels in the atmosphere were rising every year. It was also noted that several other gases, including methane (CH₄) and nitrous oxides (N₂O) were also increasing. Levels of these gases have increased by about 40% since large-scale industrialization began around 150 years ago, according to the USEPA. After numerous computer-simulated model runs on the effects of these increases in the atmosphere, it was concluded that the rising concentrations almost always resulted in an increase of average

global temperature. Rising temperatures may, in turn, produce changes in weather, sea levels and land use patterns, commonly referred to as “climate change.” There is general scientific consensus that climate change is occurring, and that human activity contributes in some measure (perhaps substantially) to that change. Manmade emissions of GHGs, if not sufficiently curtailed, are likely to contribute further to continued increases in global temperatures. Increases in global temperatures will cause a reduction in the polar ice caps and an increase in sea level, which will result in flooding in low-lying areas of the world. Additionally, climate change will shift rainfall patterns, which will cause significant impacts to agriculture and freshwater availability worldwide.

Both natural processes and human activities emit GHGs. The accumulation of GHGs in the atmosphere regulates the earth’s temperature; however, emissions from human activities such as electricity production and the use of motor vehicles have elevated the concentration of GHGs in the atmosphere. This accumulation of GHGs has contributed to an increase in the average temperature of the earth’s atmosphere and has contributed to global climate change. Of the principal GHGs (i.e., CO₂, CH₄, N₂O, sulfur hexafluoride [SF₆], perfluorocarbons [PFCs], and hydrofluorocarbons [HFCs]), CO₂ is the most common reference gas for climate change. Using the Global Warming Potential (GWP) measurement, GHG emissions are often quantified and reported as CO₂ equivalent (CO₂e). Large emission sources are reported in million metric tons of CO₂e (MMTCO₂e).

As the concentrations of GHGs continue to increase in the atmosphere, the Earth’s surface temperature is also increasing, exceeding past levels. The Earth’s average surface temperature has increased by about 0.15 degrees Fahrenheit (°F) per decade since 1901. On average, the warmest global temperatures on record have all occurred between 2006 and 2015, with 2015 being the warmest on record (USEPA 2016a). Climate models predict that the average temperature at the Earth’s surface could increase from 0.5 to 8.6°F by the end of this century if GHGs continue to increase (USEPA 2017a).

Climate change affects people, plants, and animals. Scientists are certain that increasing the concentration of GHGs will change the planet’s climate; however, they are not sure by how much it will change, at what rate it will change, or what the exact effects will be. They are working to better understand future climate change and how the effects will vary by region and over time.

Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects (Intergovernmental Panel on Climate Change [IPCC] 2001):

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;

- Increase of heat index over land areas; and
- More intense precipitation events.

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and feedback mechanisms involved are not fully understood, and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great.

Some of the potential resulting effects in California of global warming may include loss in snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. A summary of some of these potential effects that could be experienced in California as a result of climate change is provided below.

Sea Level Rise. Since 1870 the global sea level has risen about 8 inches. The rising sea level increases the likelihood and risk of flooding. Future sea level rise will vary for different reasons but is expected to rise at a greater rate than during the past 50 years. Regional factors, such as land elevation changes that occur due to subsidence or uplifting, will influence the relative sea level rise for the coastlines around the world. However, global sea level rise of 1 to 4 feet could occur by 2100 (USEPA 2017a).

Air Quality. Higher temperatures, which are conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thereby ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the State.

Water Supply. Uncertainty remains with respect to the overall impact of climate change on future water supplies in California. However, the average early spring snowpack in the Sierra Nevada decreased by about 10% during the last century. During the same period, sea level rose 8 inches along the California coast. California's temperature has risen 1°F, mostly at night and during the winter, with higher elevations experiencing the highest increase. Many southern California cities have experienced their lowest recorded annual precipitation twice within the past decade in a span of only 2 years.

This uncertainty complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The Sierra Nevada snowpack provides the majority of California's water supply by accumulating snow during our wet winters and releasing it slowly when we need it during our dry springs and summers. The Sierra Nevada snowpack is expected to experience a 25 to 40% reduction from its historic average by 2050. Climate change is also anticipated to bring

warmer storms that result in less snowfall at lower elevations, reducing the total snowpack (California Department of Water Resources [DWR] 2008).

Hydrology. As discussed previously, climate change could potentially affect the amount of snowfall, rainfall, and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for saltwater intrusion. Sea level rise may be a product of climate change through two main processes: expansion of sea water as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California's water supply due to saltwater intrusion. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture. California has a \$30 billion agricultural industry and has the highest crop value in the nation serving as an important source of the nation's food supply. Changes in temperature and water availability, compounded by annual and seasonal shifts and extremes, will affect both crop yield and quality. Indirect impacts such as decreases of pollinators and increases in pests and diseases will also have a negative effect on agricultural yield.

Ecosystems and Wildlife. Climate change and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increase in drought, wildfire, invasive species, and pests as well as geographic ranges will threaten native ecosystems in the southwest. Over 3,000 native California species of plants are expected to face reductions in geographic ranges in which they can survive. Climate change and other stressors will hinder the species' ability to migrate or adapt. These stressors include human expansion, air and water pollution, invasive species, streamflow reductions, and the regions' mountainous terrain (DWR 2008).

Greenhouse Gas Emissions

GHGs refer to gases that absorb and re-emit infrared radiation in the atmosphere. Many chemical compounds found in Earth's atmosphere act as GHGs, which allow sunlight to enter the atmosphere freely. When sunlight strikes Earth's surface, some of it is reflected back toward space as infrared radiation (heat). GHGs absorb this infrared radiation and trap the heat in the atmosphere. Over time, the amount of energy sent from the sun to Earth's surface should be about the same as the amount of energy radiated back into space, leaving the temperature of Earth's surface roughly constant. Many gases exhibit these "greenhouse" properties. Some of them occur in nature (water vapor, carbon dioxide, methane, and nitrous oxide), while others are exclusively manmade (e.g., gases used for aerosols). The principal GHGs are CO₂, methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs), are listed below (USEPA 2017b).

- **Carbon dioxide:** CO₂ enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the manufacture of cement). CO₂ is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.

- **Methane:** CH₄ is emitted during the production and transport of coal, natural gas, and oil. CH₄ emissions also result from livestock and agricultural practices and the decay of organic waste in municipal solid waste landfills.
- **Nitrous oxide:** N₂O is emitted during agricultural and industrial activities and during combustion of fossil fuels and solid waste.
- **Fluorinated gases:** HFCs, PFCs, and SF₆ are synthetic, powerful climate change gases emitted from a variety of industrial processes. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in minute quantities, but because they are potent climate-change gases, they are sometimes referred to as high GWP gases.
- **Sulfur hexafluoride:** SF₆ is a colorless, odorless, nontoxic, nonflammable gas. It 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. SF₆ is 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.

In most cases, GHGs have both natural and anthropogenic (human-caused) sources. Natural mechanisms already exist as part of the “carbon cycle” for removing GHGs from the atmosphere (often called land or ocean sinks). Because of the increase in anthropogenic sources, levels of GHGs have exceeded the normal rates of natural absorption. This has resulted in increased atmospheric concentrations of GHGs and potentially human-induced climate change.

GHG emissions in the United States come mostly from energy use. These are driven largely by economic growth, fuel used for electricity generation, and weather patterns affecting heating and cooling needs.

Energy-related CO₂ emissions resulting from fossil fuel exploration and use account for approximately three-quarters of the human-generated GHG emissions in the United States, primarily in the form of CO₂ emissions from burning fossil fuels. More than half the energy-related emissions come from large stationary sources, such as power plants; approximately one-third come from transportation; and industrial processes, agriculture, forestry, other land uses, and waste management make up most of the other sources.

As previously stated, the generation of electricity can produce GHGs with criteria air pollutants that have been traditionally regulated under the Federal and State Clean Air Acts. For fossil fuel-fired power plants, the GHG emissions include primarily CO₂, with much smaller amounts of N₂O (not nitric oxide [NO] or nitrogen dioxide [NO₂], which are commonly known as nitrogen oxides [NO_x]), and CH₄ (often from unburned natural gas). For photovoltaic solar power energy generation projects, stationary-source GHG emissions are much smaller than fossil fuel-fired power plants, but the associated maintenance vehicle emissions are higher due to the different and far-afield maintenance requirements that necessitate more vehicles and

more travel within the project site. Other sources of GHG emissions include SF₆ from high-voltage equipment and HFCs and PFCs from refrigeration/chiller equipment. GHG emissions from the electricity sector are dominated by CO₂ emissions from carbon-based fuels; other sources of GHG emissions are small and are more likely to be easily controlled or reused/recycled.

Scientists at the California Office of Environmental Health Hazard Assessment (COEHHA) believe that most areas in the United States will continue to warm, although some will most likely warm more than others. Predicting which parts of the country will become wetter or drier is extremely difficult, but scientists generally expect increased precipitation and evaporation as well as drier soil in the middle parts of the country. The northern regions, such as Alaska, are expected to experience the most warming.

Emissions Inventory

CO₂ is the most common reference gas for climate change of the principal GHGs (i.e., CO₂, CH₄, N₂O, SF₆, PFCs, and HFCs). Using the GWP measurement, GHG emissions are often quantified and reported as CO₂e. Large emission sources are reported in MMTCO₂e. Worldwide, anthropogenic emissions of GHGs were approximately 49,500 MMTCO₂e in the year 2010 (IPCC 2014). CO₂ emissions from fossil fuel use accounts for 65% of the total emissions of 49,500 MMTCO₂e (includes land use changes) and CO₂ emissions from all sources account for 77% of the total. CH₄ emissions account for 16% of GHGs and N₂O emissions account for 6% (USEPA 2016b).

Based on data from the USEPA, the total GHG emissions in the United States were 6,677 MMTCO₂e in 2018, a 3.7% increase from 1990 levels. From year to year, emissions can rise and fall due to changes in the economy, the price of fuel, and other factors. In 2018 United States GHG emissions increased compared to 2017 levels. This increase was due to several factors, including increased energy use due to greater heating and cooling needs due to a colder winter and hotter summer in 2018 compared to 2017 (USEPA 2018).

Statewide emissions of GHG from relevant source categories for 2010 through 2017 are summarized in **Table 4.7-1, California Greenhouse Gas Emissions**. In 2017 California produced 424.1 MMT CO₂e emissions. Transportation was the source of 40% of the State's GHG emissions, followed by industrial at 21%, electricity generation at 15%, commercial and residential sources at 10%, agriculture and forestry comprised at 8%, High GWP at 5%, and recycling and waste with the remaining 2% (CARB 2017a). CARB has projected that, unregulated, Statewide GHG emissions for the year 2020 will be 509 MMTCO₂e (CARB 2014). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions. California GHG emissions and the change in emissions of CO₂, CH₄, and N₂O from 2010 to 2017 are summarized in Table 4.7-1.

Table 4.7-1. California Greenhouse Gas Emissions Inventory by Economic Sector

Economic Sector	GHG Emissions* (MMTCO ₂ e)								
	2010	2011	2012	2013	2014	2015	2016	2017	2018
Transportation	165.1	161.8	161.4	161.2	162.6	166.2	169.8	171.0	169.5
Electric Power	90.3	89.2	98.2	91.4	88.9	84.8	68.6	62.1	63.1
Industrial	91.0	89.3	88.9	91.6	92.4	90.1	88.9	88.7	89.2
Commercial and Residential	45.9	46.0	43.5	44.2	38.2	38.8	40.6	41.3	41.4
Agriculture	33.7	34.4	35.5	33.8	34.8	33.4	33.2	32.3	32.6
High GWP Gases	13.5	14.5	15.5	16.8	17.7	18.6	19.3	20.0	20.5
Recycling and Waste	8.7	8.7	8.7	8.7	8.8	8.8	8.9	9.0	9.1
Total GHG Emissions	448.2	443.9	451.7	447.7	443.4	440.7	429.3	424.4	425.4

* GHG emissions are weighted using the IPCC AR4.
Source: CARB 2020b

Kern County Greenhouse Gas Inventory

On May 3, 2011, the Kern County Board of Supervisors signed a memorandum of understanding with the SJVAPCD to develop a communitywide GHG emissions inventory for the County. The *Kern County Communitywide GHG Emissions Inventory 2005 Baseline Year – 2020 Forecast* was finalized in May 2012. The GHG emission inventories were estimated for nine primary sectors (electricity production and consumption, residential/commercial/industrial combustion, transportation, fossil fuels industry, industrial processes, waste management, agriculture, forestry and land use, and other sources). The 2005 base year and 2020 forecasted GHG emissions inventory is presented below in **Table 4.7-2, Kern County Greenhouse Gas Emissions (MTCO₂e)**. As shown therein, the 2005 base year GHG emissions inventory was estimated at 27.0 MMTCO₂e and the 2020 forecasted GHG emissions inventory was estimated to be 27.3 MMTCO₂e. Electricity production was estimated to generate 13,002,127 MTCO₂e in 2005 and 18,455,958 MTCO₂e in 2020. Electricity consumption during both the 2005 base year and 2020 forecasted year is provided in Table 4.7-2.

Table 4.7-2. Kern County Greenhouse Gas Emissions (MTCO₂e)

Sector	2005 Base Year Emissions	Percent of 2005 Total	2020 Forecasted Emissions	Percent of 2020 Total
Electricity Consumption	6,039,114	22%	8,572,261	31%
Residential/Commercial/Industrial Combustion	1,281,498	5%	1,689,414	6%
Transportation	4,569,913	17%	4,823,756	18%
Fossil Fuels Industry	10,928,153	40%	7,002,009	26%
Industrial Processes	1,852,124	7%	2,348,754	9%
Waste Management	120,494	<1%	146,788	1%
Agriculture	2,024,470	7%	2,652,616	10%
Forestry and Land Use	11,028	<1%	14,669	<1%
Other Sources	218,823	1%	22,442	<1%
Total Gross Emissions	27,045,617		27,272,709	

Source: SJVACPD 2012

4.7.3 Regulatory Setting

Global Climate Change Regulatory Issues

In 1988 the United Nations and the World Metrological Organization established the IPCC to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992 the United Nations Framework Convention on Climate Change established an agreement with the goal of controlling GHG emissions, including CH₄. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs. In October 1993, President Clinton announced his Climate Change Action Plan, which had a goal to return GHG emissions to 1990 levels by the year 2000. This was to be accomplished through 50 initiatives that relied on innovative voluntary partnerships between the private sector and government aimed at producing cost-effective reductions in GHG emissions California Air Pollution Control Officers Association (CAPCOA 2008).

On March 21, 1994, the United States joined several countries around the world in signing the United Nations Framework Convention on Climate Change (UNFCCC). Under the convention, governments do the following: gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

A particularly notable result of the UNFCCC efforts was a treaty known as the Kyoto Protocol, which was negotiated in December 1997. The agreement came into force on February 16, 2005, following ratification by Russia on November 18, 2004. When countries sign the treaty, they demonstrate their commitment to reduce their emissions of GHGs or engage in emissions trading. As of December 2006, a total of 169 countries and other governmental entities have ratified the agreement. Notable exceptions include the United States and Australia. Although U.S. Vice President Gore symbolically signed the protocol in 1998, for the protocol to be formally ratified, it must be ratified by the U.S. Congress, and this has not occurred to date. Other countries, like India and China, which have ratified the protocol, are not required to reduce carbon emissions under the present agreement despite their relatively large populations.

Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere (chlorofluorocarbons [CFCs], halons, carbon tetrachloride, and methyl chloroform) were to be phased out by 2000 (methyl chloroform was to be phased out by 2005).

Global warming and climate change have received substantial public attention for more than 15 years. For example, the U.S. Global Change Research Program was established by the Global Change Research Act of 1990 to enhance the understanding of natural and human-induced changes in the Earth's global environmental system, to monitor, understand and predict global change, and to provide a sound scientific basis for national and international decision-

making. Even so, the analytical tools have not been developed to determine the effect on worldwide global warming from a particular increase in GHG emissions, or the resulting effects on climate change in a particular locale. The scientific tools needed to evaluate the impacts that a specific project may have on the environment are even farther in the future.

Federal

U.S. Environmental Protection Agency

The Federal Clean Air Act (CAA) requires the USEPA to define national ambient air quality standards to protect public health and welfare in the United States. The USEPA has not established any ambient air quality standards for GHGs as the CAA does not specifically regulate GHG emissions; however, on April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency* (549 U.S. 497 (2007)), the U.S. Supreme Court found that GHGs are pollutants covered by the CAA. The Court held that the USEPA must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution that could reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the USEPA is required to follow the language of CAA Section 202(a). The Supreme Court decision resulted from a petition for rulemaking under Section 202(a) filed by more than a dozen environmental, renewable energy, and other organizations. Currently, there are no Federal regulations that establish ambient air quality standards for GHGs.

On April 17, 2009, the Administrator signed Proposed Endangerment and Cause or Contribute findings for GHGs under CAA Section 202(a). The USEPA held a 60-day public comment period, which ended June 23, 2009, and received over 380,000 public comments. These included both written comments as well as testimony at two public hearings in Arlington, Virginia and Seattle, Washington. The USEPA carefully reviewed, considered, and incorporated public comments and issued the final Findings.

The USEPA found that six GHGs taken in combination endanger both the public health and the public welfare of current and future generations. The USEPA also found that the combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that endangers public health and welfare under CAA Section 202(a). These findings were based on careful consideration of the full weight of scientific evidence and a thorough review of numerous public comments received on the Proposed Findings published April 24, 2009. These Findings became effective on January 14, 2010. Specific GHG Regulations that the USEPA has adopted to date are discussed below.

40 Code of Federal Regulations Part 98, Mandatory Reporting of Greenhouse Gases Rule

This rule requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 MTCO_{2e} emissions per year (USEPA 2011). Additionally, reporting of emissions is required for owners of SF₆- and PFC-insulated equipment when the total nameplate capacity of these insulating gases is above 17,280 pounds. The project, including stationary sources, would not be expected to trigger Federal GHG reporting according to the rule.

In 40 CFR Part 52, *Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, the USEPA mandated to apply Prevention of Significant Deterioration (PSD) requirements to facilities whose stationary source CO₂e emissions exceed 75,000 tons per year (USEPA 2011).

U.S. Environmental Protection Agency and National Highway Traffic Safety Administration Joint Final Rules for Vehicle Standards

On April 1, 2010, the USEPA and National Highway Traffic Safety Administration (NHTSA) announced a joint final rule to establish a national program consisting of new standards for light-duty vehicles model years 2012 through 2016. The joint rule is intended to reduce GHG emissions and improve fuel economy. The USEPA approved the first-ever national GHG emissions standards under the CAA, and NHTSA approved Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act (75 FR 25324–25728). The final rule became effective on July 6, 2010 (75 FR 25324–25728).

Clean Power Plan and New Source Performance Standards for Electric-Generating Units

On October 23, 2015, the USEPA published a final rule (effective December 22, 2015) establishing Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribed how States must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric-generating units. Implementation of the Clean Power Plan was subsequently stayed by the U.S. Supreme Court pending resolution of several lawsuits challenging the plan.

On March 28, 2017, President Donald Trump signed Executive Order (EO) 13783 calling for USEPA review of the Clean Power Plan.

Affordable Clean Energy Rule

On June 19, 2019, the USEPA published a final rule repealing the Clean Power Plan, adopting the Affordable Clean Energy (ACE) rule requiring States to prepare and submit to the USEPA plans that establish CO₂ performance standards for certain existing coal-fired electric utility-generating units within their jurisdiction, and finalizing regulations governing implementation of the ACE rule and any future emissions guidelines that the USEPA may issue under CAA Section 111(d). Also, on June 19, 2019, California Governor Gavin Newsom’s office published a press release stating that California “and a coalition of states” will initiate a legal challenge of the ACE.

Federal Vehicle Standards

In August 2016, the USEPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018–2027 for certain trailers, and model years 2021–2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses

and work trucks. The final standards are expected to lower CO₂ emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (USEPA and NHTSA 2016).

In August 2018, the USEPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards now in place, the 2018 proposal would increase U.S. fuel consumption by about half a million barrels per day (2 to 3% of total daily consumption, according to the U.S. Energy Information Administration [USEIA]) and would impact the global climate by 3/1000th of 1 degree Celsius by 2100 (USEPA and NHTSA 2018). California and 16 other states have filed a lawsuit to challenge Federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. Thus, the timing and consequences of the 2018 Federal proposal are speculative at this time. Further, the current chair of the CARB (Mary Nichols) has announced that the CARB will continue to file lawsuits to reverse any Trump administration decision to lessen vehicle efficiency standards, decline to allow California to enforce more stringent vehicular air pollution standards under the waiver procedure established by the Federal CAA, or otherwise reduce the stringency of Federal air pollution regulations, and has further announced CARB's intention to continue to independently enforce Federal standards in California while such lawsuits are pending. It is not reasonably foreseeable that less stringent Federal air pollution standards will be applicable to the project given independent California authority, the length of time required to complete the Federal litigation process, the absence of any injunction precluding California from enforcing more stringent Federal standards while such lawsuits are present, and the CARB's announced intention to continue to enforce Federal air regulations rescinded or modified by the Trump administration.

Fuel Efficiency Standards for Construction Equipment

The Federal government sets fuel efficiency standards for non-road diesel engines that are used in construction equipment. The regulations, contained in 40 CRF Parts 1039, 1065, and 1068, include multiple tiers of emission standards. Most recently, the USEPA adopted a comprehensive national program to reduce emissions from non-road diesel engines by integrating engine and fuel controls as a system to gain the greatest reductions. To meet these Tier 4 emission standards, engine manufacturers will produce new engines with advanced control technologies (USEPA, 2004).

State

California Environmental Quality Act

A variety of Statewide rules and regulations have been implemented or are in development in California that mandate the quantification or reduction of GHGs. Under the California Environmental Quality Act (CEQA), an analysis and mitigation of emissions of GHGs and climate change in relation to a project is required where it has been determined that a project will result in a significant addition of GHGs. Certain Air Pollution Control Districts (APCDs) have proposed their own levels of significance. The SJVAPCD, which has regulatory authority

over the air pollutant emissions from this project, has adopted a significance threshold for projects where the SJVAPCD acts as CEQA Lead Agency (SJVAPCD 2009); however, Kern County has not adopted a significance threshold for these emissions.

California Supreme Court Ruling In Center for Biological Diversity v. Department of Fish and Wildlife (2015) 62 Cal.4th 2014 (Newhall)

In *Center for Biological Diversity v. Department of Fish and Wildlife (Newhall)*, the Supreme Court evaluated the California Department of Fish and Wildlife (CDFW) analysis of potential impacts caused by GHG emissions contained in the EIR for the proposed land development called Newhall Ranch. In the EIR, the CDFW analyzed GHG emissions under Assembly Bill (AB) 32, using the business-as-usual (BAU) comparison as its sole criterion of significance.

In *Newhall*, the Supreme Court concluded that a finding of consistency with meeting Statewide emission reduction goals is a legally permissible criterion of significance when analyzing potential impacts of GHG emissions under CEQA. However, the Court found that the EIR's conclusion that the project's emissions would be less than significant under that criterion was not supported by substantial evidence, and remanded back to the appellate court the narrow issue of whether substantial evidence supported the application of AB 32 Statewide GHG reduction goal of 29% to new land use projects.

The Court then identified "potential options" for lead agencies evaluating cumulative significance of a proposed land use development's GHG emissions in future CEQA documents, but the Court was careful to note that there was no "guarantee" that any of these would be sufficient, stating: "We do not, of course, guarantee that any of these approaches will be found to satisfy CEQA's demands as to any particular project; what follows is merely a description of potential pathways to compliance, depending on the circumstances of a given project."

The "potential pathways to compliance" suggested by the Court are as follows:

Business-As-Usual (BAU) Model: While the Court cautioned that the Scoping Plan may not be appropriate at the project-level, the BAU model might be used to determine what level of reduction from business as usual a new land use development at the proposed location must contribute in order to comply with statewide goals pursuant to AB 32. The Court specifically directed that reliance on this type of quantitative threshold must be supported by substantial evidence in the record that links the statewide GHG reduction standard to the appropriate GHG reduction standard for the specific type of project under consideration.

1. **Compliance With Regulatory Programs Designed To Reduce Greenhouse Gas Emissions:** The Court suggests that a lead agency could rely on a showing of compliance with regulatory programs designed to reduce GHG emissions in order to demonstrate consistency with AB 32's goals. The Court clarifies that a significance analysis based on compliance with such statewide regulations only goes to impacts within the area governed by the regulations.
2. **Local Climate Action Plan or Other "Geographically Specific Greenhouse Gas Emission Reduction Plans":** The Court points out that these plans may provide a basis

for the tiering or streamlining of project-level CEQA analysis, so long as the plan is “sufficiently detailed and adequately supported.”

3. **Regional Sustainable Community Strategy (SCS):** The Court also articulates that a Lead Agency need not additionally analyze GHG emissions from cars and light trucks in CEQA documents for certain residential, mixed-use, and transit priority projects that are consistent with an applicable SCS adopted pursuant to Senate Bill (SB) 375.
4. **Numerical GHG Significance Thresholds:** Although noting that use of such thresholds is not required, the Court favorably cited to the Bay Area Air Quality Management District GHG significance thresholds, based on compliance with AB 32, which use a “service population” GHG ratio threshold for land use projects and a 10,000-ton annual GHG emission threshold for industrial projects. The Court remanded for further consideration the application of the 29% overall Scoping Plan metric, which is used by several Air Districts and, like the favorably cited Bay Area Air Quality Management District metric, is based on AB 32.
5. **Executive Orders S-3-05 and B-30-15:** Citing to EOs S-3-05 and B-30-15, the Court cautioned that those EIRs taking a goal-consistency approach to CEQA significance may “in the near future” need to consider the project’s effects on meeting emissions reduction targets beyond 2020.

Following the Supreme Court’s decision in *Newhall*, the EIR at issue in that case was set aside on remand by the lower court. On November 2016, the CDFW released a draft Additional Environmental Analysis (AEA) intended to address the agency’s CEQA compliance obligations (CDFW 2016). The AEA does not respond to the Supreme Court’s direction to provide substantial evidence supporting the 29% BAU statutory GHG reduction threshold relied upon by the *Newhall* EIR. The AEA also does not include an assessment of the *Newhall* project’s consistency with any of the Court’s suggested GHG CEQA compliance pathways, although referenced documentation in the *Newhall* administrative record do include and confirm compliance with each pathway. Instead, as described in the AEA, the *Newhall* project applicant (Five Point LLC) voluntarily modified its project and proposed to achieve “net zero” GHG emissions for the project with the implementation of the project applicant’s “zero net emission” proposal, which was made enforceable by the addition of 13 mitigation measures that correspond to the applicant’s proposal, as further described in the AEA. The AEA states that the adoption and implementation of the 13 mitigation measures would reduce mobile source, electricity, natural gas, vegetation removal, and construction-related emissions by the amount of emissions estimated for the project and result in no net contributions of GHG emissions from the project, or “zero net emissions.” The AEA further concludes that because the project would result in no net increase of GHG emissions after implementation of the mitigation measures, there would be no contribution of GHG emissions to cumulative GHG emissions influencing global climate change and the *Newhall* project would not conflict with any plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs. Consequently, the AEA concludes that project GHG and climate change impacts would be less than significant (CDFW 2016, pp. 1–18).

California Code of Regulations Title 24

Title 24 of the California Code of Regulations (CCR) was established in 1978 and serves to enhance and regulate California's building standards. Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (Public Resources Code [PRC] Section 25402[b][1]). The regulations have the overall goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (PRC Section 25402). These regulations are analyzed for technological and economic feasibility (PRC Section 25402[d]) and cost effectiveness (PRC Sections 25402[b][2] and [b][3]). These building code standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and reduce air pollutant emissions either by reducing the quantity of energy required by the building (e.g., with water conservation measures that reduce water use and thus the quantity of water requiring emission-causing transportation and treatment, or with energy efficiency standards such as enhanced insulation that reduce the need for heating, ventilation, and air conditioning (HVAC) and likewise result in less energy consumption and air pollutant emissions from these HVAC uses.

The current Title 24 standards are the 2016 Title 24 Building Energy Efficiency Standards, which became effective January 1, 2017, following certification of the 2016 EIR. The 2019 Title 24 Building Energy Efficiency Standards, which will be effective January 1, 2020, will further reduce energy used and associated GHG emissions compared to current standards. In general, single-family residences built to the 2019 standards are anticipated to use approximately 7% less energy due to energy efficiency measures than those built to the 2016 standards; further, as newly mandated state standards requiring rooftop solar electricity generation is factored in, single-family residences built under the 2019 standards will use approximately 53% less energy than those built under the 2016 standards (CEC 2018). Nonresidential buildings built to the 2019 standards are anticipated to use an estimated 30% less energy than those built to the 2016 standards (CEC 2018). The 2016 EIR did not include the reduced energy consumption or corresponding reduced air pollutant emissions from compliance with the 2019 Building Code, which became effective on January 1, 2020, or the newly mandated state standards requiring rooftop solar electricity generation.

Assembly Bills

Assembly Bill 1493

In 2002, AB 1493, also known as the Pavley Regulations or the Clean Car Standards required California to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emissions emitted by passenger vehicles and light-duty trucks. In 2009, the USEPA granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles. Subsequent regulations were adopted by the CARB in September 2004, and in 2009, CARB adopted amendments to the Pavley regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016.

The regulations were threatened by automaker lawsuits and were stalled by the USEPA's initial denial to allow California to implement GHG standards for passenger vehicles. The USEPA later granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles on June 30, 2009. On September 24, 2009, the CARB adopted amendments to the Pavley regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016.

Assembly Bill 32: California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. The legislature stated, "global warming poses a serious threat to the economic wellbeing, public health, natural resources, and the environment of California." AB 32 caps California's GHG emissions at 1990 levels by 2020 and requires the CARB, the State agency charged with regulating statewide air quality, to adopt rules and regulations that would achieve GHG emissions equivalent to Statewide levels in 1990 by 2020. This law establishes periodic targets for reductions, and requires certain facilities to report emissions of GHGs annually; AB 32 also reserves the ability to reduce emissions targets for certain sectors that contribute the most to emissions of GHGs, including the transportation sector.

This agreement represents the first enforceable statewide program in the U.S. to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB 32 lays out a program to inventory and reduce GHG emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

The list of impacts included in AB 32 may be considered substantial evidence of environmental impacts requiring analysis in CEQA documents. AB 32 charges the CARB with responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. The CARB has adopted a list of discrete early action measures that can be implemented to reduce GHG emissions. The CARB has defined the 1990 baseline emissions for California, and has adopted that baseline as the 2020 statewide emissions cap. CARB is conducting rulemaking for reducing GHG emissions to achieve the emissions cap by 2020. In designing emission reduction measures, the CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

The AB 32 Scoping Plan contains the main strategies California will use to reduce the GHG emissions that cause climate change. The scoping plan has a range of GHG emission reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 cost of implementation fee regulation to fund the program. The proposed scoping plan was released on October 15, 2008, and approved at the Board hearing on December 12, 2008.

On October 20, 2011, the CARB approved a cap-and-trade program as part of AB 32, with compliance obligations that became effective in 2013. An initial cap will be implemented for the electrical sector and any large industrial source that emits more than 25,000 MTCO₂e emissions per year. Over time, the cap will be reduced so that the program will apply to a broader range of facilities.

In May 2014, CARB adopted a Scoping Plan Update that revised the 2020 emissions target to 431 MMTCO₂e (based on updated GWPs for GHGs) and also builds upon the initial Scoping Plan with new strategies and recommendations. The 2014 Scoping Plan Update identified opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The 2014 Scoping Plan Update also defined the CARB's climate change priorities for the following 5 years and set the groundwork to reach California's long-term climate goals set forth in EO S-3-05 and B-16-2012. EO B-16-2012 directed State entities under the governor's direction and control to support and facilitate development and distribution of zero-emission vehicles (ZEVs). Former Governor Jerry Brown's executive order set a long-term target of reaching 1.5 million ZEVs on California's roadways by 2025. On a Statewide basis, the executive order also established a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050.

Assembly Bill 32 Scoping Plan Update

In December 2017, the CARB adopted California's 2017 Climate Change Scoping Plan (CARB 2017). The 2030 target of 40% emissions reductions below 1990 levels guides the Scoping Plan, as the economy evolves to reduce GHG emissions in every sector. The 2017 Scoping Plan builds on the successful framework established in the initial Scoping Plan and First Update, while identifying new technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target as established by SB 32 and define the state's climate change priorities to 2030 and beyond. The strategies' known commitments include implementing renewable energy and energy efficiency (including the mandates of SB 350), increasing stringency of the, implementing measures identified in the Mobile Source and Freight Strategies, implementing measures identified in the proposed Short-Lived Climate Pollutant Plan, and increasing stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, it recommends continuing the Cap-and-Trade Program; continuing Low Carbon Fuel Standard activities, with increasing stringency of at least 18% reduction in carbon intensity; and a measure to reduce GHGs from refineries by 20%.

The Supreme Court has determined that a Scoping Plan is not self-implementing (i.e., is not a regulation), and in the Newhall case described above, the Supreme Court further concluded that consistency with Scoping Plan overall targets is not an appropriate threshold of significance for determining CEQA impacts, notwithstanding arguments presented to the Court in that case that CEQA requires either a "net zero" GHG emissions significance threshold or the unlegislated EO 2050 target significance threshold.

Assembly Bill 398 Extension of Cap-and-Trade

On July 25, 2017, former Governor Jerry Brown signed into law AB 398, which reauthorizes the continuation of the Cap-and-Trade Program through December 31, 2030.

Senate Bills

Senate Bills 32 and 197

In 2016, Senate Bill (SB) 32, was enacted by the State of California. SB 32 extends the statewide GHG reduction goals established in AB 32 to reach a 40% reduction from 1990 GHG levels by 2030. SB 32 was passed in conjunction with AB 197. Designed to improve the transparency of CARB's regulatory and policy-oriented processes, AB 197 created the Joint Legislative Committee on Climate Change Policies, a committee with the responsibility to ascertain facts and make recommendations to the Legislature concerning statewide programs, policies and investments related to climate change. AB 197 also requires CARB to make certain GHG emissions inventory data publicly available on its web site; consider the social costs of GHG emissions when adopting rules and regulations designed to achieve GHG emission reductions; and, include specified information in all Scoping Plan updates for the emission reduction measures contained in the Scoping Plan.

Senate Bill 97

SB 97, enacted in August 2007, required the California Office of Planning and Research (OPR) to develop guidelines for the mitigation of GHG emissions or effects related to releases of GHG emissions. On April 13, 2009, OPR submitted proposed amendments to the California Natural Resources Agency (CNRA), in accordance with SB 97, regarding analysis and mitigation of GHG emissions. Formal rulemaking was conducted in 2009 prior to adopting the amendments. As discussed below, the CEQA significance analysis for the project was conducted in accordance with the OPR guidance developed under this statute.

As part of the guidelines, OPR recommends that CARB set Statewide thresholds of significance and emphasized the need to have a consistent threshold available to analyze projects. The draft guidelines also noted that the analyses should be based on the best available information. As directed by SB 97, the CNRA adopted amendments to the State CEQA Guidelines for GHG emissions on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the amendments and filed them with the Secretary of State for inclusion in the CCR. The amendments became effective on March 18, 2010.

Senate Bill 375

In August 2008, the legislature passed, and on September 30, 2008, former Governor Schwarzenegger signed, SB 375 (Steinberg), which addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. Regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035, as determined by the CARB, are required to consider the emission reductions associated with vehicle emission standards (see AB 1493), the composition of fuels (see EO S-1-07), and other

CARB-approved measures to reduce GHG emissions. Regional metropolitan planning organizations will be responsible for preparing an SCS within their Regional Transportation Plan (RTP).

Senate Bill 1078

Approved by former Governor Gray Davis in September 2002, SB 1078 (Sher) established the Renewable Portfolio Standard (RPS) program, which requires an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (see SB 107).

Senate Bill 100

SB 100 (De León, also known as the “California Renewables Portfolio Standard Program: emissions of greenhouse gases”) was approved by the California legislature and signed by Governor Brown in September 2018. The bill increases the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the State that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

Senate Bill 107

Approved by former Governor Arnold Schwarzenegger on September 26, 2006, SB 107 (Simitian) requires investor-owned utilities such as the Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), and San Diego Gas and Electric (SDG&E), to generate 20% of their electricity from renewable sources by 2010.

Senate Bill 605

On September 21, 2014, former Governor Jerry Brown signed SB 605, which requires the CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state.

Senate Bill 350

Former Governor Jerry Brown signed SB 350 on October 7, 2015, which expands the RPS by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses upon which an energy efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the California Public Utilities Commission (CPUC), in consultation with the CEC, to establish efficiency targets for electrical

and gas corporations consistent with this goal. SB 350 also provides for the transformation of the California Independent System Operator (CAISO) into a regional organization to promote the development of regional electricity transmission markets in the western states and to improve the access of consumers served by the CAISO to those markets, pursuant to a specified process.

Advanced Clean Cars Program

In January 2012, the CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011). To improve air quality, the CARB will propose new emission standards to reduce smog-forming emissions beginning with 2015 model-year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, the CARB, in conjunction with the USEPA and the NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The ZEV program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years. The Clean Fuels Outlet regulation will ensure that fuels such as electricity and hydrogen are available to meet the fueling needs of the new advanced technology vehicles as they come to the market.

California Air Pollution Control Officers Association

The CAPCOA is the association of air pollution control officers representing all 35 air quality agencies throughout California. The CAPCOA is not a regulatory body, but it has been an active organization in providing guidance in addressing the CEQA significance of GHG emissions and climate change as well as other air quality issues. The GHG analysis set forth in this report has been informed, in part, by the expertise and methodologies described in the following documents published by CAPCOA: (1) *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act* (CAPCOA 2008); and (2) *Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures* (CAPCOA 2010). The methodologies used in this GHG analysis are consistent with the CAPCOA guidelines.

California Air Resources Board Cap-and-Trade for Stationary Sources and Fuels

The SJVAPCD approved Policy APR-2025 (CEQA Determinations of Significance for Projects Subject to CARB's GHG Cap-and-Trade Regulation) to evaluate whether projects subject to the cap-and-trade regulation would comply with plans for reducing GHG emissions supported by an environmental review compliant with CEQA requirements, and that

compliance with this plan would adequately mitigate GHG emissions for CEQA purposes under the SJVAPCD thresholds.

SJVAPCD concluded that the cap-and-trade regulation is such a plan, and that compliance would result in a project having a less-than-significant impact for GHG emissions that are subject to the cap-and-trade regulations. The cap-and-trade regulation applies to providers of electricity generated or imported into California, large industrial facilities emitting more than 25,000 MTCO₂e per year, and other specific facilities, as well as to distributors of transportation fuels, natural gas, and other fuels. The regulation requires that emissions generated by these facilities and combustion of fuels be reduced over time. Accordingly, the SJVAPCD found that “GHG emission increases caused by fuel use (other than jet fuels [which are not regulated under the cap-and-trade regulation]) are determined to have a less-than-significance impact on global climate change under CEQA.” SJVAPCD Policy APR-2015 is consistent with the recent case *Association of Irrigated Residents v. Kern County Board of Supervisors, et al.* (2017) 17 Cal.App.5th 708 (“AIR”), wherein the Court of Appeal held that CEQA does in fact authorize a Lead Agency “to determine a project’s greenhouse gas emissions will have a less than significant effect on the environment based on the project’s compliance with the cap-and-trade program.”

Executive Orders

The current and prior Governors also issued several executive orders regarding climate change and GHG reductions. These orders include, but are not limited to, the following discussed below.

Executive Order S-1-07

Issued on January 18, 2007, EO S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO₂e grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% 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. The CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste. In addition, the Low Carbon Fuel Standard would drive the availability of plug-in hybrid, battery electric, and fuel-cell power motor vehicles. The Low Carbon Fuel Standard is anticipated to lead to the replacement of 20% of the fuel used in motor vehicles with alternative fuels by 2020.

Executive Order S-3-05

EO S-3-05 was established by former Governor Arnold Schwarzenegger in June 2005. EO S-3-05 establishes Statewide emission reduction targets through the year 2050:

- By 2010, reduce GHG emissions to 2000 levels;

- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80% below 1990 levels.

This executive order does not include any specific requirements that pertain to the project. However, actions taken by the State to implement these goals could affect this project, depending on the specific implementation measures that are developed.

Executive Order S-13-08

Former Governor Arnold Schwarzenegger issued EO S-13-08 on November 14, 2008. The executive order is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. It directs State agencies to take specified actions to assess and plan for such impacts. It directs the CNRA, in cooperation with the DWR, CEC, California's coastal management agencies, and the Ocean Protection Council, to request that the National Academy of Sciences prepare a Sea Level Rise Assessment Report to assess the State's vulnerability. The report summarizes key climate change impacts to the State for the following areas: public health, ocean and coastal resources, water supply and flood protection, agriculture, forestry, biodiversity and habitat, and transportation and energy infrastructure. The report then recommends strategies and specific responsibilities related to water supply, planning and land use, public health, fire protection, and energy conservation.

Executive Order B-16-12

Former Governor Jerry Brown issued EO S-16-12 on March 23, 2012. The executive order requires that State entities under the governor's direction and control support and facilitate the rapid commercialization of ZEVs.

Executive Order B-18-12

Former Governor Jerry Brown issued EO S-18-12 on April 25, 2012. The executive order directs State agencies, departments, and other entities under the governor's executive authority take actions to reduce entity-wide GHG emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline.

Executive Order B-30-15

On April 29, 2015, former Governor Jerry Brown issued EO B-30-15, which identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32.

Executive Order B-37-16

Issued May 2016, EO B-37-16 directs the State Water Resources Control Board (SWRCB) to adjust emergency water conservation regulations through the end of January 2017 to reflect differing water supply conditions across the State. The SWRCB must also develop a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory

25% reduction called for in EO B-29-15. The SWRCB and DWR will develop new, permanent water use targets that build upon the existing State law requirements that the State achieve 20% reduction in urban water usage by 2020. EO B-37-16 also specifies that the SWRCB will permanently prohibit water-wasting practices, such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in a fountain or other decorative water feature; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.

Executive Order B-40-17

EO B-40-17 (April 2017) lifted the drought emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne. It also rescinds EO B-29-15, but expressly states that EO B-37-16 remains in effect and directs the SWRCB to continue development of permanent prohibitions on wasteful water use.

Executive Order B-55-18

EO B-55-18 (September 2018) establishes a Statewide policy for the State to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. The goal is an addition to the existing Statewide targets of reducing the State's GHG emissions. The CARB will work with relevant State agencies to ensure that future scoping plans identify and recommend measures to achieve the carbon neutrality goal.

Association of Irrigated Residents v. Kern County Board of Supervisors (2017) 17 Cal.App.5th 708

In *AIR*, the Court of Appeal held that CEQA authorized a Lead Agency to reduce the volume of a project's estimated GHG emissions to reflect the use of cap-and-trade compliance instruments when assessing the significance of a project's GHG emissions. Specifically, the *AIR* court held that, for purposes of State CEQA Guidelines Section 15064.4(b)(2), the Cap-and-Trade Program qualifies as a Statewide regulatory program for the reduction of GHG emissions, and CEQA thus authorizes a Lead Agency "to determine a project's GHG emissions will have a less than significant effect on the environment based on a project's compliance with the cap-and-trade program." On January 31, 2018, the Supreme Court declined review of the *AIR* decision. Therefore, *AIR* is controlling law.

California Code of Regulations Title 23, Article 22.5

California extended emergency water conservation regulations based on ongoing and projected future drought conditions caused or exacerbated by climate change.

California Code of Regulations Title 17

The CARB adopted amendments to regulations implementing the Cap-and-Trade Program in 2017, consistent with and in furtherance of AB 398's extension of the Cap-and-Trade Program discussed above.

California Code of Regulations Title 14, Chapter 3

The CNRA and OPR adopted the updated State CEQA Guidelines in December 2018; however, the updated guidelines did not change the guidelines or Appendix G (often used as default CEQA significance standards) relating to GHG. The guidelines did adopt new CEQA provisions regarding VMT as CEQA impacts as of July 1, 2020, based on the relationship between VMT and health benefits of encouraging drivers to walk or bike instead of drive, the wear and rainwater runoff that occurs on roads and highways, and air pollutant emissions (including GHG) from avoided vehicle travel when VMT is reduced. The OPR also issued non-binding guidance documents relating to VMT and GHG.

Regional

2018 Regional Transportation Plan/Sustainable Communities Strategy

The Kern Council of Governments (Kern COG) is the Regional Transportation Planning Agency (RTPA) for the Kern County region. Kern COG adopted the 2018 RTP/SCS in August 2018. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. It has been developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between Federal, State, regional, and local agencies. Included in the 2018 RTP is the SCS required by California's Sustainable Communities and Climate Protection Act, of SB 375. SB 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation (RHNA) ensuring consistency between low-income housing need and transportation planning. SB 375 includes the following three primary findings related to the RTP/SCS development process:

- The CARB was required to develop regional GHG emission reduction targets for cars and light trucks for each of the 18 Metropolitan Planning Organizations (MPOs) in California, including Kern COG. The CARB approved targets for the San Joaquin Valley in January 2013. Although focused on the San Joaquin Valley, the RTP/SCS applies to all of Kern County. The target for Kern County is a per capita reduction in GHG emissions from passenger vehicle travel of 5% by 2020 and 10% by 2035 relative to 2005 levels.
- Kern COG was required to prepare an SCS that specifies how the GHG emission reduction target set by the CARB will be achieved. If the target cannot be met through the SCS, then an Alternative Planning Strategy (APS) shall be prepared by Kern COG. Chapter 4 of the 2018 RTP/SCS includes the SCS for Kern COG. The RTP/SCS for Kern County demonstrated reductions of 14.1% for 2020 and 16.6% for 2035.
- Streamlines CEQA requirements for specific residential and mixed-use developments that are consistent with the Kern COG SCS or APS (as determined by the CARB) to achieve regional GHG emissions reduction target (Kern COG 2018).

San Joaquin Valley Air Pollution Control District

The SJVAPCD does not regulate GHG emissions directly through its permitting responsibilities for stationary sources. Thus, there are no SJVAPCD rules or regulations related to GHGs. The SJVAPCD, however, affects reductions of GHGs from new and modified stationary sources when acting as a Lead Agency for CEQA. The SJVAPCD implements its GHG policies and reviews whether new or modified stationary sources will implement best performance standards (BPS). In 2009, the SJVAPCD reviewed potential GHG significance thresholds and approaches suggested by or adopted by the following entities, ranging from quantification of a project's GHG impacts without a recommended significance threshold to a zero threshold to specific significance thresholds for different kinds of projects (e.g., residential, mixed use, industrial, plans).

On December 17, 2009, the SJVAPCD Governing Board adopted Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009). The guidance recommends the hierarchy discussed below.

Projects complying with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less-than-significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the Lead Agency with jurisdiction over the affected resource and supported by a CEQA-compliant environmental review document adopted by the Lead Agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.

Projects implementing BPS would not require quantification of project-specific GHG emissions. The guidance recommends, "Projects requiring preparation of an Environmental Impact Report for any other reason would require quantification of project specific GHG emissions." This assessment for the project does include quantification of the project's construction and operational GHG emissions. Consistent with the State CEQA Guidelines, such projects would be determined to have a less-than-significant individual and cumulative impact for GHG emissions. Projects not implementing BPS would require quantification of project-specific GHG emissions and demonstration that project-specific GHG emissions would be reduced or mitigated by at least 29%, compared to BAU, including GHG emission reductions achieved since the 2002–2004 baseline period. Projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less-than-significant individual and cumulative impact for GHG (SJVAPCD 2009).

For development projects, BPS would include project design elements, land use decisions, and technologies that reduce GHG emissions. While the SJVAPCD has adopted BPS for several types of stationary sources (e.g., boilers), it has not developed BPS for land development projects. Projects implementing any combination of BPS, and/or demonstrating a total 29% reduction in GHG emissions from BAU, would be determined to have a less-than-significant individual and cumulative impact on global climate change (SJVAPCD 2015).

The project relies on the first SJVAPCD-recommended approach for evaluating a project's impact with respect to its GHG emissions: compliance with an approved GHG emission reduction plan or GHG mitigation program.

Local

Kern County

Kern County has not adopted a GHG reduction plan or climate action plan as of this publication of this EIR. Construction and operation of the project would be subject to policies and regulations contained within the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to GHG emissions. The policies and implementation measures in the Kern County General Plan related to GHG emissions that are applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development, such as the project. These measures are not listed below, but as stated in Chapter 2, *Introduction*, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference. The policies, goals, and implementation measures in the *Kern County General Plan* applicable to GHGs as related to the project are provided in Chapter 4.2, *Air Quality*. Some of the listed policies, goals, and implementation measures would indirectly impact GHG emissions through the reduction of fossil fuel use.

Kern County General Plan

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

1.10 General Provisions

1.10.2 Air Quality

Policies

Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.

Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision-making body, as part of its deliberations, will ensure that:

- A. All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and
- B. The benefits of the project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all

feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.

Policy 21: The County shall support air districts' efforts to reduce PM₁₀ and PM_{2.5} emissions.

Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, state, and local standards.

Policy 23: The County shall continue to implement the local government control measures in coordination with the Kern Council of Governments and the San Joaquin Valley Unified Air Pollution Control District.

Implementation Measures

Implementation Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.

Implementation 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.

Implementation 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.

Implementation Measure J: The County should include PM₁₀ control measures as conditions of approval for subdivision maps, site plans, and grading permits.

4.7.4 Impacts and Mitigation Measures

This section evaluates the impacts related to GHG emissions that may be generated during construction and operation of the project. It describes the potential GHG emissions associated with the project 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, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

This section describes the methods used in conducting the CEQA impact analysis for GHG emissions, the thresholds of significance used in assessing impacts to GHG emissions, and the assessment of impacts related to GHG emissions and global climate change, including relevant mitigation measures where applicable. Emissions modeling and impact analysis is based on the *Lost Hills Composting and Waste to Energy Projects Air Quality and GHG Technical Report* (Yorke Engineering, LLC 2020), included in Appendix B of this EIR.

The proposed project includes three components: (1) modifying existing landfill facility operations to allow for acceptance of additional waste streams and additional hours of operation; (2) construction and operation of a composting facility; and (3) construction and operation of a bioenergy facility. GHG emissions were estimated for each facility and then combined to estimate total project GHG emissions. The sources of GHG emissions and methods employed to calculate GHG emissions for each facility are described in the following subsections.

Landfill Facility

Construction Emissions

The proposed modifications to the existing landfill facility are limited to extending the hours of operation and allowing additional waste streams to be accepted at the facility. Construction activities would not be required; therefore, construction emissions for the landfill facility were not calculated.

Operation Emissions

The landfill facility has historically operated below the maximum permitted waste disposal rate of 2,000 tons per day (TPD). While the proposed project would not change the maximum permitted waste disposal rate, the landfill facility would accept additional waste streams and volume compared to current conditions. As such, the *Lost Hills Composting and Waste to Energy Projects Air Quality and GHG Technical Report* (Yorke Engineering, LLC 2020) (see Appendix B) estimated the increase in emissions between the baseline period (2009–2019) and 2,000 TPD of maximum waste disposal.

Baseline conditions reflect the total organic waste disposed in the landfill since the landfill was permitted to accept organic waste in 2009–2019. Operation of the existing landfill generates landfill gas due to the anaerobic decomposition of biodegradable waste. Landfill gas emissions consist primarily of CO₂ and CH₄. It is important to note that CO₂ emissions from the decomposition of organic waste in the landfill are not reported because the emissions are biogenic and do not contribute to global warming.

Landfill gas GHG emissions were calculated using LandGEM, which is a Microsoft Excel-based public-domain software available from the USEPA. Detailed LandGEM files and spreadsheets showing the landfill gas emissions for each year up to 2133 are provided in Appendix B. Emissions were estimated through 2133 because landfill gas will continue to be emitted after the landfill closes in 2030.

The landfill operations are existing and currently generate GHGs from on-road and off-road mobile sources. On-road mobile source emissions are generated from employee travel, routine business travel, and the transport of waste material to the facility. Off-road mobile source emissions are generated from heavy equipment operation at the landfill facility. The proposed modifications to the landfill facility would not change the daily or annual waste volumes or increase employee or business-related travel. Therefore, emissions associated with on-road and off-road mobile sources were not estimated.

eASP Composting System

Construction Emissions

Construction of the composting facility would result in GHG emissions from the use of on-road and off-road mobile sources associated with employee travel and site preparation activities. On-road mobile source emissions were estimated using the EMFAC2017 emission model,

which is a model developed and maintained by the CARB and used to generate emission factors required for on-road emissions. Off-road mobile source emissions were estimated using the California Emissions Estimation Model (CalEEMod, Version 2016.3.2), the official Statewide land use computer model designed to provide a uniform platform for estimating GHG emissions.

Operation Emissions

Operation of the composting facility would generate GHG emissions from on-road and off-road mobile sources. On-road mobile GHG emission sources would result from employee travel, routine business travel, the transport of compostable feedstock material to the facility, and the transport of finished product from the facility to end users. On-road GHG emissions were calculated using the EMFAC2017 model.

Off-road mobile GHG emission sources would result from equipment used to support operating activities, such as mixing and moving feedstock between compost processing and loading finished compost product into delivery trucks. Off-road GHG emissions were calculated based on the type of engine used to power the equipment, the size of the engine, the engine load, and the equipment operating hours.

The composting facility would indirectly decrease GHG emissions by diverting organic wastes away from landfill facilities that would otherwise generate CH₄ emissions, which is a more potent GHG than CO₂. Organic waste that is deposited in landfill facilities tend to decompose anaerobically (by microbes in the absence of oxygen), releasing CH₄ into the atmosphere. By contrast, the process of composting decomposes organic waste aerobically (microbes in the presence of oxygen and water) and does not produce CH₄ because CH₄-producing microbes are not active in the presence of oxygen (Government of Western Australia [GWA] 2018). Additionally, compost application to agricultural fields increases soil health while providing multiple co-benefits, such as reducing the amount of synthetic fertilizer needed, decreasing soil erosion, and reducing the use of herbicides. Additional benefits (not quantified) include the energy saved through reduced water use, increased crop yield, and increased microbial activity, which result in healthier soils. The method to calculate total avoided GHG emissions is a function of the GHG emission avoidance factors minus the emissions emitted during the composting process. The emission reduction equation employed to calculate GHG emission reductions is provided in more detail in Appendix B.

While composting facilities can substantially reduce GHG emissions by diverting organic waste away from landfill facilities and encouraging aerobic decomposition, GHG emissions, (i.e., CH₄, N₂O, and CO₂) can still occur during the composting process, particularly while feedstock is stored or curing. Methods to estimate CH₄ and N₂O emissions employ a variety of SJVAPCD, CARB, and IPCC factors and are described in more detail in Appendix B. CO₂ emissions generated from composting activities are considered part of the natural carbon cycle and, therefore, do not contribute to global warming. Therefore, CO₂ emissions were not estimated.

Bioenergy Facility

Construction

Construction of the bioenergy facility would generate GHG emissions from on-road and off-road mobile sources. On-road mobile GHG emission sources would result from employee commute vehicles, haul vendor trucks, and delivery vehicles. Off-road mobile GHG emission sources would result from vehicles and equipment involved in constructing the bioenergy facility, including graders, dozers, scrapers, compacters, and rollers. Construction GHG emissions were estimated using the CalEEMod, version 2016.3.2.

Operation Emissions

Operation of the bioenergy facility would result in GHG emissions from the combustion of natural gas to preheat a thermal oxidizer and from various other ancillary components and activities, including handling of feedstock material, an emergency generator, firewater pump, and delivery and worker vehicle trucks. GHG emissions were estimated for each component and the methods employed are described in more detail in Section 4.2, *Air Quality*, and Appendix B.

Thresholds of Significance

The Kern County Environmental Checklist identifies the following criteria, as established in Appendix G of the State CEQA *Guidelines*, to determine if a project could potentially have a significant environmental impact from the emissions of GHGs. The Kern County Environmental Checklist states that a project would normally be considered to have a significant impact on GHG emissions 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 any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Kern County has not developed a quantitative 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 emission impacts (CARB 2014).

As indicated in Section 4.7.3, *Regulatory Setting*, the SJVAPCD has adopted guidance documents for assessing and mitigating GHG impacts on global climate change. Rather than establishing specific numeric thresholds of significance (as in the case of criteria pollutant emissions), the SJVAPCD guidance utilizes a tiered approach to assess cumulative impacts on global climate change. First, a project can demonstrate compliance with an approved GHG emissions reduction program (such as CARB's Statewide GHG Cap-and-Trade Program). Second, a project can demonstrate implementation of BPS to reduce GHG emissions. Finally, a project can demonstrate achievement of a 29% reduction in GHG emissions from BAU. This

project relies on compliance with an approved GHG emission reduction program to determine whether the project would have a significant individual or cumulative impact for GHG emissions.

The SJVAPCD CEQA Cap-and-Trade Policy also recommends that projects that are required to comply with CARB's GHG Cap-and-Trade Program be determined to have a less-than-cumulatively-significant impact on global climate change. This policy is included in the SJVAPCD's December 2009 CEQA GHG policies (described above) and its March 19, 2015 *Final Draft Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI), which states that a project whose emissions have been reduced or mitigated consistent with the California Global Warming Solutions Act of 2006 (AB 32) should be considered to have a less-than-significant impact on global climate change (SJVAPCD 2015).

This approach would include both the CARB's GHG Cap-and-Trade Program and other adopted GHG-reducing regulations (such as the oil and gas methane rule now in development) as adopted GHG emissions reduction plans. Under the SJVAPCD's tiered approach in assessing significance of project-specific GHG emission increases, projects complying with an approved GHG emission reduction plan or GHG mitigation program that avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less-than-significant individual and cumulative impact for GHG emissions (SJVAPCD 2015).

The SJVAPCD's March 2015 GAMAQI, Section 8.9, observes that:

It is widely recognized that no single project could generate sufficient GHG emissions to noticeably change global climate temperature. However, the combination of GHG emissions from past, present and future projects could contribute substantially to global climate change. Thus, project specific GHG emissions should be evaluated in terms of whether or not they would result in a cumulatively significant impact on global climate change.

Project Impacts and Mitigation Measures

Impact 4.7-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

The proposed project would result in short-term construction and long-term operational GHG emissions. The following subsections quantify the GHG emissions from each proposed project component (i.e., the landfill, composting facility, and bioenergy facility), as well as the combined GHG emissions from all three facilities. The determination of significance is based on the combined emissions of all three facilities, as required by CEQA.

eASP Composting Facility

Construction

As previously described in Section 4.7.4, *Methodology*, construction of the composting facility would generate GHG emissions from on-road and off-road mobile sources. Estimated increases in GHG emissions associated with construction of the compost facility are summarized in **Table 4.7-5, Composting Facility Construction and Operational GHG Emissions**. As depicted, the GHG emissions associated with mobile sources were amortized over the operational lifespan of the facility and total 35.7 MTCO_{2e} per year.

Table 4.7-3. Composting Facility Construction and Operational GHG Emissions

Category	MTCO ₂ /Year	MTCH ₄ /Year	MTN ₂ O/Year	Total MTCO _{2e} /Year
On-road Exhaust-Operation	9,194	0.78	1.85	9,784
Off-road Exhaust-Operation	4,739	265	121	47,701
Compost Area -Construction (amortized)	35.7	--	--	35.7
Composting	-- ¹	1,133	235	96,488
Total	13,969	1,399	358	154,009
Cap-and-Trade Allowances for Transportation Fuels	(13,933)	(265)	(123)	(57,486)
Compost Application	--	--	--	(358,400)
Total with GHG Deductions	35.7	1,133.8	234.9	-261,877.3

¹ CO₂ emissions from the landfill are excluded because they are biogenic and are considered part of the natural carbon cycle.

Source: Yorke Engineering 2020

The SJVAPCD and Kern County have not adopted guidance that would apply to construction-generated emissions. For the purposes of this analysis, construction-generated emissions were amortized over a 30-year period and are included with the discussion of operational emissions, below.

Operation

As previously described in Section 4.7.4, *Methodology*, operation of the composting facility would generate GHG emissions from on-road and off-road mobile sources. As previously described in Section 4.7.3, *Regulatory Setting*, the CARB's Cap-and-Trade program is an adopted Statewide plan for reducing or mitigating GHG emissions, which includes emissions from the transportation fuel and energy sectors. As such, the SJVAPCD considers GHG emissions resulting from the combustion of transportation fuels to be mitigated under the Cap-and-Trade program. In the context of this project, the 57,486 MTCO_{2e} that would be generated by mobile sources per year would be offset by the Cap-and-Trade Program (see **Table 4.7-5, Composting Facility Construction and Operational GHG Emissions**). As depicted, these emissions were subtracted from the total generated GHG emissions. As

previously described in Section 4.7.4, *Methodology*, operation of the composting facility would also indirectly decrease cumulative GHG emissions by diverting organic waste away from landfill facilities, reducing reliance on chemical fertilizers and herbicides, and decreasing soil erosion. The avoided GHG emissions would total approximately 358,400 MTCO₂e per year, which were subtracted from the total generated GHG emissions (see **Table 4.7-5, Composting Facility Construction and Operational GHG Emissions**).

When considering the GHG emissions offset by the Cap-and-Trade Program and avoided from diverting organic waste away from landfill facilities, the composting facility would result in a net deduction of approximately 261,877.3 MTCO₂e per year (see **Table 4.7-5, Composting Facility Construction and Operational GHG Emissions**).

Bioenergy Facility

Construction

As previously described in Section 4.7.4, *Methodology*, construction of the bioenergy facility would generate GHG emissions from on-road and off-road mobile sources. Construction GHG emissions would total 966 MTCO₂e. These emissions were amortized over the 30-year operational life span of the facility and translate to 32 MTCO₂ per year, as depicted in **Table 4.7-6, Bioenergy Facility GHG Operational Emissions**.

Table 4.7-4 Bioenergy Facility GHG Operational Emissions

Category	MTCO ₂ /Yr	MTCH ₄ /Yr	MTN ₂ O/Yr	Total MTCO ₂ e/Yr
Construction	32	<0.01	--	32
Operation ¹	1,456	0.2	--	1,461
Total	1,488	0.2	--	1,493

¹ Excludes biogenic CO₂ emissions from the thermal oxidizer.
Source: Yorke Engineering 2020

The SJVAPCD and Kern County have not adopted guidance that would apply to construction emissions. For the purposes of this analysis, construction-generated emissions are included with the discussion of operational emissions, below.

Operation

At build out, the proposed bioenergy facility would generate approximately 1,461 MTCO₂e per year (see **Table 4.7-6, Bioenergy Facility GHG Operational Emissions**). GHG emissions associated with the operation of the bioenergy facility would be primarily associated with on-road and off-road vehicles and, to a lesser degree, from various other ancillary components and activities, including handling of feedstock material, an emergency generator, and firewater pump.

As indicated in Table 4.7-6, *Bioenergy Facility GHG Operational Emission*, operation of the bioenergy facility, with the inclusion of amortized construction emissions, would total 1,493 MTCO_{2e} per year.

Landfill Facility

As previously described, baseline GHG emissions associated with the existing landfill facility were quantified in order to evaluate the change in GHG emissions associated with accepting additional waste streams and volume over the baseline period (2009–2019).

The landfill is existing and the waste previously disposed of at the landfill would continue to generate landfill gas, which is comprised primarily of CH₄ and CO₂. While CH₄ is counted toward the GHG emissions from the proposed project, CO₂ is not because it is considered biogenic and is part of the natural carbon cycle and, therefore, does not contribute to climate change. As provided in **Table 4.7-3, Baseline Landfill GHG Emissions**, baseline GHG emissions associated with the existing landfill are 58,452 MTCO_{2e} per year.

Table 4.7-5 Baseline Landfill GHG Emissions

Category	MTCO ₂ /Year	MTCH ₄ /Year	MTN ₂ O/Year	Total MTCO _{2e} /Year
Landfill Gas	0.0	2,783	0.0	58,452
Total – Baseline	0.0	2,783	0.0	58,452

Source: Yorke Engineering 2020

During operation, the landfill facility's GHG emissions would generate 20,516 MTCO₂ per year, 2,566 MTCH₄ per year, and 0.3 MTN₂O per year. This equates to 74,451 MTCO_{2e} per year (**Table 4.7-4, Landfill Facility Operational GHG Emissions**). When accounting for baseline emissions (which are subtracted from the emissions associated with the proposed modifications to the landfill facility), operation of the landfill facility would result in a net increase of 20,516 MTCO₂, a net deduction of 219 MTCH₄ per year, and a net increase of 0.1 MTN₂O per year, which equates to a total net increase of 15,998 MTCO_{2e} per year (see Table 4.7-4).

Table 4.7-6 Landfill Facility Operational GHG Emissions

Category	MTCO ₂ /Year	MTCH ₄ /Year	MTN ₂ O/Year	Total MTCO _{2e} /Year
Landfill Gas Fugitives	-- ¹	2,418	0.0	50,784
Landfill Gas Stack	-- ¹	145	0.0	3,047
Flare Combustion	20,516	1	0.2	20,619
Total	20,516	2,565	0.3	74,451
Baseline	(0.0)	(2,783)	(0.0)	(58,452)
Total after Baseline	20,516	-219	0	15,998

¹ CO₂ emissions from the landfill are excluded because they are biogenic and are considered part of the natural carbon cycle.

Source: Yorke Engineering 2020.

The net deduction in CH₄ emissions is primarily attributed to the landfill facility's gas collection system, which recovers and routes CH₄ to a flare to convert CH₄ to CO₂.

Combined Project Facilities

When considering whether a project will have a significant environmental impact, the Lead Agency must consider the whole of an action, not simply its constituent parts (*Citizens Assoc. For Sensible Development of Bishop Area v. County of Inyo* (1985) 172 Cal.App.3d 151). As such, the evaluation of significance considers the combined emissions from the landfill (operation only), composting facility (construction and operation), and bioenergy facility (construction and operation).

As previously indicated, the SJVAPCD and Kern County have not adopted guidance that would apply to construction emissions. For the purposes of this analysis, construction-generated emissions from the composting and bioenergy facilities are included with the operational emissions discussed below.

As provided in **Table 4.7-7, Combined Facilities Construction and Operation GHG Emissions**, the combined GHG emissions from the landfill, composting, and bioenergy facilities would result in a net reduction of approximately 244,386 MTCO₂e per year. Because the project would result in a net reduction of GHG emissions, the project would not generate GHG emissions in concentrations sufficient to have a significant impact on the environment. Further, as described below in Impact 4.7-2, because the project results in a net reduction of GHG emissions, the project would not conflict with an adopted GHG emission reduction program. Therefore, GHG impacts would be less than significant.

Table 4.7-7 Combined Facilities Construction and Operation GHG Emissions

Facility	MTCO ₂ /Year	MTCH ₄ /Year	MTN ₂ O/Year	Total MTCO ₂ e/Year
Landfill Facility	20,516	-219	0	15,998
Compost Facility	35.7	1,133.8	234.9	-261,877.3
Bioenergy Facility	1,488	0.2	0	1,493
Total	22,040.7	915	234.9	-244,386.3

Source: Yorke Engineering 2020

Mitigation Measures

No mitigation would be required; however, implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), and MM 4.2-7 (LDF) (see Section 4.2, *Air Quality*, for mitigation measures) would further reduce GHG impacts.

Level of Significance

With implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), and MM 4.2-7 (LDF), impacts would be less than significant.

Impact 4.7-2: The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

In accordance with the SJVAPCD's CEQA thresholds for the evaluation of GHG impacts, a project would not have a significant GHG impact if it is consistent with an applicable GHG reduction plan. Applicable GHG reduction plans include Kern COG's *2018 RTP/SCS*, which was approved by the CARB in August 2018, and the CARB's *2017 Climate Change Scoping Plan*. Consistency with these plans is discussed in greater detail below.

2018 Regional Transportation Plan/Sustainable Communities Strategy

The *2018 RTP/SCS* identifies Transit Priority Centers to be developed for urbanized uses, around which, future transit, vanpooling services, and other smart growth and transportation practices could be implemented to accommodate future population and economic growth. The intent of these measures is to reduce future GHG emissions associated with mobile sources. The proposed project would not conflict with the projected land use development patterns or transit priority employment place types identified in the *2018 RTP/SCS*.

Climate Change Scoping Plan

The *2017 Climate Change Scoping Plan* describes the strategies California will take to reduce GHGs to achieve the goal of reducing emissions to 40% below 1990 levels by 2030. These strategies are grouped into 14 categories and target key sectors of the economy, including energy, transportation, industry, water, waste management, and natural, working, and agricultural lands. Many of the strategies identified in the scoping plan are programmatic and are not applicable to individual development projects. However, the scoping plan includes several strategies that aim to reduce GHG emissions that are relevant to the project. These strategies involve renewable energy generation, diversion of organic waste from landfill facilities, utilizing biomass for renewable energy and fuel, and controlling methane at landfill facilities.

The proposed project includes modifications to an existing landfill facility, which would be equipped with a landfill gas collection system to reduce emissions of GHGs. The proposed project also includes the construction and operation of a composting facility, which would divert organic waste from landfill facilities, reduce reliance on chemical fertilizers and herbicides, and decrease soil erosion. The diverted organic waste would reduce GHG emissions by 358,400 MTCO₂e per year, which would have otherwise been emitted into the atmosphere

each year. In addition, the project includes construction and operation of a bioenergy facility, which would generate up to 3.7 megawatts of renewable power. The proposed project would result in a net deduction of GHG emissions and would contribute toward the State's RPS and GHG reduction goals.

It is also important to note that the Scoping Plan identifies a Cap-and-Trade Program as one of the strategies to be employed to reduce GHG emissions. The Cap-and-Trade Program is implemented by the CARB and places a cap on GHG emissions from industrial, utility, and transportation fuels sectors. In accordance with the scoping plan, the CARB's Cap-and-Trade Program is an adopted Statewide plan for reducing or mitigating GHG emissions, which includes emissions from the transportation fuel and energy sectors. As previously described in Impact 4.7-1, the SJVAPCD considers GHG emissions resulting from the combustion of fuels at the project level, either for energy use or transportation, to be mitigated under the Cap-and-Trade Program and would, therefore, not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

The proposed project would not conflict with either the *2018 RTP/SCS* or the *2017 Climate Change Scoping Plan*. Therefore, the proposed project would result in a less-than-significant impact related to a conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative Setting

As discussed previously, impacts associated with GHG emissions are cumulative in nature, rather than project specific. Refer to Section 4.7.2, *Environmental Setting*, for a discussion of the cumulative setting for GHG emissions.

Under AB 32, the CARB, which is the agency in charge of regulating sources of emissions of GHGs in California, has been tasked with adopting regulations for the reduction of GHG emissions. The effects of this project are evaluated based not upon the quantity of emissions, but rather on whether the project is consistent with reduction strategies identified in AB 32, the Governor's EOs S-3-05 and B-30-15, or other strategies to help toward reducing GHGs to the proposed levels. If so, it could reasonably follow that the project would not result in a significant contribution to the cumulative impact of global climate change.

The geographic scope for cumulative impacts for GHGs includes other projects planned within a 6-mile radius of the project site and other planned projects that are similar to the proposed

project. This is discussed further in Section 3.8, *Cumulative Effects Overview*. While projects in the region and the larger area affect the volume of GHG in the atmosphere, by focusing on plans scheduled to be implemented within the project site and in the vicinity of the project site, the analysis of cumulative impacts can be given a regional context.

Impact 4.7-3: The project would contribute to cumulative greenhouse gas emissions impacts.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The Kern County 2005 base-year GHG emissions inventory was estimated to be 27 MMTCO₂e/year, of which the Fossil Fuel Industry sector represents 40%, followed by the Electricity Consumption sector at 22% (see **Table 4.7-2, Kern County Greenhouse Gas Emissions (MTCO₂e)**). The 2020 forecasted GHG emissions inventory was estimated to be 27 MMTCO₂e/year, of which, the Electricity Consumption sector represents 31% followed by the Fossil Fuel Industry sector at 26% (SJVAPCD 2012).

The proposed project would result in a net reduction of 244,386 MTCO₂e per year; therefore, the proposed project would not contribute to a cumulative increase in GHG emissions and the project would not have a cumulatively considerable impact on global climate change. Cumulative impacts would be less than significant.

Mitigation Measures

No mitigation would be required; however, implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), and MM 4.2-7 (LDF) (see Section 4.2, *Air Quality*, for mitigation measures) would further reduce GHG impacts.

Level of Significance

With implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), and MM 4.2-7 (LDF), impacts would be less than significant.

Hazards and Hazardous Materials

4.8.1 Introduction

This section of the Environmental Impact Report (EIR) describes the hazards and hazardous materials and potential health and safety issues associated with the proposed project. The presence of any regional and project site-specific health and safety issues and hazardous materials is evaluated, and an analysis of the potential impacts associated with the proposed project is presented. This section also provides recommendations for mitigating adverse impacts to associated health and safety risks and hazardous materials to less-than-significant levels, where applicable. Also included in this section is discussion related to the transportation and disposal of hazardous materials. Air pollutant emissions and associated health effects, including public exposure to Valley Fever spores, are discussed in Section 4.2, *Air Quality*; impacts associated with geologic and seismic hazards are evaluated in Section 4.6, *Geology and Soils*; impacts associated with flood hazards are discussed in Section 4.9, *Hydrology and Water Quality*; and impacts associated with wildfire are discussed in Section 4.18, *Wildfire*, of this EIR. Analysis in this section is based on the original EIR prepared for the Holloway Landfill (Kern County 2007), *Lost Hills Phase I Environmental Site Assessment for Approximate 6-acre Proposed Bioenergy Facility Site* (Advanced Environmental Concepts, Inc. [AEC] 2020), and documentation derived from the Kern County Planning and Natural Resources Department and the Kern County Multi-Hazard Mitigation Plan (Kern County Office of Emergency Services [KCOES] 2012).

4.8.2 Environmental Setting

As described in Chapter 3, *Project Description*, the project site is comprised of two adjacent sites, Sites A and B, which are separated by Holloway Road. Site A is an existing Class III non-hazardous industrial waste landfill facility located at 14045 Holloway Road on the west side of Holloway Road at the G P Road junction. Existing landfill operations and the proposed extended Aerated Static Pile (eASP) composting facility would be sited within Site A. Site B is an equipment staging and storage lot on the east side of Holloway Road, north of G P Road and would be the future site of the proposed bioenergy facility.

The project sites are located in a rural area with no established community within 1 mile; however, the community of Lost Hills is located approximately 4.3 miles southeast of the project site. The existing landfill and gypsum mine each operate under an existing Conditional Use Permit (CUP). The CUP boundary for the landfill facility operates under CUP #9, Map 28 and the mine facility operates under CUP #1, Map 28.

Existing Setting

The project sites are currently developed with a Class III non-hazardous landfill and a gypsum mine. Land uses include the H.M. Holloway Gypsum Mine to the north, undeveloped Federal land and the 3,000-acre Lost Hills Oil Field (owned and operated by various producers) to the east, a closed Kern County landfill operating as a Transfer Station and other undeveloped land to the south, and undeveloped land to the west. Other adjacent or nearby land uses include orchard and row-crop farming, a biosolids/green waste composting operation (Liberty Composting), and two State highways (State Route [SR] 46 and SR 33). The sites are located outside the planning sphere of influence for the community of Lost Hills. The nearest sensitive receptor of effects from potential hazards is a residence located approximately 2.3 miles east of the project site at Munger Farms.

Safety measures and procedures have been developed and implemented to minimize the potential health and safety risk at the landfill. Employees have proper safety training, as required by State regulations. Safety equipment and communication devices are available at the landfill. The landfill contractor is responsible for the safety of their employees and provides their own Health and Safety Plan, which is approved by the Kern County Public Works Department.

Existing zoning does not allow for the establishment of a residential land use in the buffer zone surrounding the existing landfill. The nearest school to the project site is the combined Lost Hills Elementary School and A.M. Thomas Middle School, located approximately 4.3 miles southeast of the project sites in the community of Lost Hills. The Kern County Fire Department (KCFD) provides fire protection services to the project sites. The nearest fire station—Station 26 – Lost Hills, located approximately 4.8 miles southeast of the project sites at 14670 Lost Hills Road in the community of Lost Hills—is the primary station serving the project sites. The project sites are served by the Kern County Sheriff's Office (KCSO) for law enforcement and public safety; the closest KCSO Substation is the Wasco City Substation, located approximately 24 miles east of the project site at 748 F Street in the City of Wasco.

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 California Code of Regulations (CCR) Title 22, 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 Chapter 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).

As a Class III non-hazardous industrial waste landfill facility, hazardous waste is not accepted for disposal at the existing landfill. Relatively minor quantities of hazardous materials are used at the project sites and are mainly associated with building maintenance and office supplies.

Electromagnetic Fields

Electromagnetic Fields (EMFs) are associated with electromagnetic radiation, which is energy in the form of photons. Radiation energy spreads as it travels and has many natural and humanmade sources. The electromagnetic spectrum, the scientific name given to radiation energy, includes light, radio waves, and x-rays, among other energy forms. Electric and magnetic fields are common throughout nature and are produced by all living organisms. Concern over EMF exposure, however, generally pertains to humanmade sources of electromagnetism and the degree to which they may have adverse biological effects or interfere with other electromagnetic systems.

Commonly known humanmade sources of EMF are electrical systems, such as electronics and telecommunications, as well as electric motors and other electrically powered devices. Radiation from these sources is invisible, non-ionizing, and low frequency. Generally, in most environments, the levels of such radiation added to natural background sources are low.

Electric voltage (electric field) and electric current (magnetic field) from transmission lines create EMFs. Power frequency EMF is a natural consequence of electrical circuits and can be either directly measured using the appropriate measuring instruments or calculated using appropriate information.

On January 15, 1991, the California Public Utilities Commission (CPUC) initiated an investigation to consider its role in mitigating the health effects, if any, of electric and magnetic fields from utility facilities and power lines. A working group of interested parties, the California EMF Consensus Group, was created by the CPUC to advise it on this issue. The California EMF Consensus Group's fact-finding process was open to the public, and its report incorporated public concerns. Its recommendations were filed with the CPUC in March 1992. Based on the work of the California EMF Consensus Group, written testimony, and evidentiary hearings, CPUC's decision (93-11-013) was issued on November 2, 1993, to address public concern about possible EMF health effects from electric utility facilities. The conclusions and findings included the following:

We find that the body of scientific evidence continues to evolve. However, it is recognized that public concern and scientific uncertainty remain regarding the potential health effects of EMF exposure. We do not find it appropriate to adopt any specific numerical standard in association with EMF until we have a firm scientific basis for adopting any particular value.

This continues to be the stance of the CPUC regarding standards for EMF exposure. Currently, the State has not adopted any specific limits or regulations regarding EMF levels from electric power facilities.

The project would interconnect the proposed bioenergy facility to the Pacific Gas and Electric Company (PG&E) distribution system at PG&E's Twisselman 2105 distribution circuit on the south side of G P Road, immediately south of Site B.

Vectors

A vector is defined as any animal that is a potential carrier of disease. According to regulatory standards provided by 27 CCR 21600: "the propagation, harborage, or attraction of flies, rodents, birds or other vectors should be controlled." The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) defines a 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, other insects, ticks, mites or rats." Consequently, if these conditions appear, a significant public health and safety impact could arise.

The project sites (Sites A and B) are immediately abutted by the facilities and operation of the Holloway Mine, a gypsum mining operation that was identified as having no potential for vector habitat or breeding by the original Holloway EIR. The landfill, unlike the gypsum mine, does have the potential for vector habitat, as discussed below. It is surrounded by an oil field and dry farming operations. It is approximately 4 miles from a biosolids composting facility, 0.25 mile from the Lost Hills Solid Waste Management Facility owned by Kern County and currently being used as a transfer station, and 4.3 miles from the nearest urban area, the community of Lost Hills. The landfill is in an undeveloped area, away from any urban development.

The propagation of rodents, flies, and other vectors at the landfill is controlled by compacting refuse properly, placing a cover on the working face daily during active operations, and minimizing the active working face. Site personnel inspect landfill areas frequently for any signs of insect or rodent activity. If such activity is observed, site personnel will contact pest control specialists for professional advice and services, as necessary, to ensure that a vector nuisance does not develop.

Stormwater sumps are located at the existing facility. It is possible that a stagnant pool of water may form in these basins. Sumps are inspected by the Kern County Environmental Health Services Department (KCEHSD), on a regular basis.

The U.S. Environmental Protection Agency (USEPA) (through the Resource Conservation and Recovery Act, Subtitle "D" [RCRA, Subtitle "D"]) and the California Department of Resources Recycling and Recovery (CalRecycle) (through 27 CCR 20680 et seq.) identify the application of daily cover material as a principal means of minimizing the attraction of birds, rodents and other vectors to a landfill. The industry-recognized text *Integrated Solid Waste Management: Engineering Principles and Management Issues* (Tchobanoglous et al. 1993) describes daily cover soil as a suitable medium for preventing burrowing by rodents.

Sensitive Receptors

The nearest residence to the project site is 2.3 miles east of the project site at Munger Farms. The nearest community, Lost Hills, is located approximately 4.3 miles southeast of the project site. The project sites are not located within 0.25 mile of a school. Lost Hills Elementary School and A.M. Thomas Middle School are approximately 4.3 miles southeast of the project sites in the community of Lost Hills. Schools have been listed as a sensitive receptor by the State of California, which are considered to be more sensitive to effects from the environment than others. The schools in the community of Lost Hills are the closest sensitive receptors to the project sites; therefore, no sensitive receptors, such as schools, parks, churches, or hospitals, exist within a 1-mile radius of the project sites.

Airports

The project sites are not located within a public Airport Land Use Plan area, nor do they fall within any specific airport sphere of influence identified by the Kern County Airport Land Use Compatibility Plan (ALUCP). The project sites are approximately 3.24 miles northwest of the Lost Hills Airport sphere of influence and 4.12 miles from the end of its runway.

Fire Hazard Areas

Areas of high and very high hazards consist mainly of undeveloped wildlands, which are mountain and hill lands in an uncultivated, more or less natural state, covered with timber, wood, brush, and grasslands. The sites are not identified as being in a State Responsibility Area (SRA) on the Fire Hazard Severity Zone (FHSZ) map for SRAs (CAL FIRE 2007b) adopted by the KCFD, but are identified as having a “moderate” fire risk on the FHSZ map for Local Responsibility Areas (LRAs) (CAL FIRE 2007a). All agencies and departments of Kern County are expected to respond promptly and effectively to any foreseeable emergency, using the Kern County Emergency Plan, as amended.

Subsurface Fires

Subsurface landfill fires can occur as buried combustible refuse materials are heated, either through biological decomposition or chemical oxidation. A continuous source of oxygen is necessary for this process; oxidation of the refuse materials can generate heat to the point of combustion. As temperatures within the landfill increase, pyrolytic reactions may occur. A subsurface fire may result in accelerated local settlement in the vicinity of the fire and venting of smoke or combustion of by-products throughout various parts of the landfill. The combustion byproducts may include particulate matter, unburned hydrocarbons, carbon monoxide, and various volatile organic compounds, depending on the types of buried waste.

Surface Fires

Surface fires can occur at the working face (active dumping area), at recyclable storage areas, and at tipping areas of landfills. No recyclable storage or tipping areas are present at the existing landfill or proposed for the project. A triggering mechanism may be burning refuse falling from a vehicle or, in rare cases, ignition caused by a piece of landfill operating equipment or refuse

truck. The primary potential hazards of a surface fire are possible burn injuries, smoke inhalation by workers near the fire area, and visible smoke emanating from the fire. Such a fire would be small and of short duration, as there is limited available combustible material at the surface. Also, highly compacted waste decreases the availability of oxygen and, therefore, surface fires tend to be superficial in nature, typically burning 1 foot or less into the compacted refuse. As a nuisance, smoke causes eye and throat irritation and unpleasant odors, and can detract from the aesthetics of the landfill if visible from a distance. Burning refuse may also release toxic emissions, depending on the type of combustible refuse. As the facility is a non-hazardous industrial waste facility, potential levels of hazardous materials in the waste streams would be considered very low.

4.8.3 Regulatory Setting

Federal

U.S. Environmental Protection Agency (USEPA)

The U.S. Environmental Protection Agency (USEPA) was established in 1970 to consolidate in one agency a variety of Federal research, monitoring, standard-setting, and enforcement activities to ensure environmental protection. The USEPA's mission is to protect human health and to safeguard the natural environment—air, water, and land—upon which life depends. The USEPA works to develop and enforce regulations that implement environmental laws enacted by Congress, is responsible for researching and setting national standards for a variety of environmental programs, and delegates to States and Tribes the responsibility for 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 the States and Tribes in reaching the desired levels of environmental quality.

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act (RCRA) of 1976

The Federal Toxic Substances Control Act of 1976 and the 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. 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/Superfund Amendments and Reauthorization Act (CERCLA) of 1980

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, commonly known as “Superfund,” was enacted by Congress on December 11, 1980. This law (42 United States Code [USC] 103) provides broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of

hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enables the revision of the National Contingency Plan (NCP) (40 Code of Federal Regulations [CFR] Part 300), which provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List (NPL). CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

Clean Water Act (CWA)/Spill Prevention, Control, and Countermeasure (SPCC) Rule

The Clean Water Act (CWA) (33 USC 1251 et seq., formerly known as the Federal Water Pollution Control Act of 1972) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of waters of the United States. As part of the CWA, the USEPA oversees and enforces the Oil Pollution Prevention regulation contained in 40 CFR 112, which is often referred to as the “SPCC rule” because the regulations describe the requirements for facilities to prepare, amend, and implement spill prevention, control, and countermeasure (SPCC) plans. A facility is subject to SPCC regulations if a single oil storage tank has a capacity greater than 660 gallons, the total aboveground oil storage capacity exceeds 1,320 gallons, or the underground oil storage capacity exceeds 42,000 gallons, and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the “Navigable Waters” of the United States.

Other Regulations

Other Federal regulations overseen by the USEPA relevant to hazardous materials and environmental contamination include 40 CFR Parts 100–149, Water Programs; 40 CFR Parts 239–259, Solid Wastes; and 40 CFR Parts 260–279, Hazardous Waste. These regulations designate hazardous substances under the CWA, determine the reportable quantity for each substance that is designated as hazardous, and establish quantities of designated substances equal to or greater than the reportable quantities that may be discharged into waters of the United States.

U.S. Occupational Safety and Health Administration (OSHA)

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 establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in 29 CFR 1910.

State

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act of 1985, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a hazardous materials business plan that describes their facilities, inventories, emergency response plans, and training programs. Hazardous materials are defined as 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.

Assembly Bill 2948 (Tanner) – County Hazardous Waste Management Plans

In 1988, the State Assembly passed Assembly Bill (AB) 2948 in response to the growing concern regarding hazardous waste management in California. AB 2948 authorized a County, in lieu of preparing the hazardous waste portion of a County Solid Waste Management Plan (CoSWMP), to draft a County hazardous waste management plan. AB 2948 created the Hazardous Waste Control Account in the General Fund and the Hazardous Waste Management Planning Subaccount (CalRecycle 2018). AB 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 its jurisdiction. The Kern County and Incorporated Cities Hazardous Waste Management Plan (Hazardous Waste Plan) was first adopted by Kern County and each incorporated City before September 1988, and was subsequently approved by the State Department of Health Services. The Hazardous Waste Plan is incorporated by reference into the *Kern County General Plan* as permitted by Health and Safety Code Section 25135.7(b), and thus must be consistent with all other aspects of the *Kern County General Plan*.

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 CCR Section 26, which describes the following required aspects for the proper management of hazardous waste:

- Identification and classification;
- Generation and transportation;
- Design and permitting of recycling, treatment, storage, and disposal facilities;
- Treatment standards;
- Operation of facilities and staff training; and
- Closure of facilities and liability requirements.

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the DTSC.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

Senate Bill (SB) 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 CUPA. The Program Elements consolidated under the Unified Program are as follows:

- Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs (i.e., Tiered Permitting);
- Aboveground Petroleum Storage Tank Program;
- Hazardous Materials Release Response Plans and Inventory Program (i.e., Hazardous Materials Disclosure or “Community-Right-To-Know”);
- California Accidental Release Prevention Program (Cal ARP);
- Underground Storage Tank (UST) Program; and
- Uniform Fire Code Plans and Inventory Requirements.

The Unified Program is intended to provide relief to businesses in complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another local agency, a participating agency, which implements one or more Program Elements in coordination with the CUPA.

California Code of Regulations Title 27, Environmental Protection, Division 2, Solid Waste

Regulations covering waste disposal site operations specifically are defined in 27 CCR Division 2, Chapter 3, Sections 20550–20750. Several sections deal with worker health and safety. Section 20590 requires that operating and maintenance personnel wear and use approved safety equipment for personal health and safety. Section 20610 requires that personnel assigned to operate the site must be adequately trained in subjects pertinent to site operation and maintenance, with emphasis on safety, health, environmental controls, and emergency procedures. It is the responsibility of the site operator to provide adequate numbers of qualified personnel to staff the site and deal effectively and promptly with matters of environmental controls, emergencies, and health and safety. The site operator is required to

provide adequate supervision to ensure proper compliance with all applicable laws, regulations, permit conditions, and other requirements.

The project site is an existing Class III non-hazardous industrial waste landfill that accepts only nonhazardous waste for disposal and is regulated under CCR Title 27. According to the Regional Water Quality Control Board (RWQCB) Geologic and Siting Criteria for Classified Units, CCR Title 27, a Class III non-hazardous industrial waste unit is required to have/install a single clay landfill liner. However, in 2003 and 2004, a “Liner Performance Report - Pits E, F, and G” and a “Supplementary Site Characterization Report F & G Connection Pit” (Kern County 2007) was prepared and submitted to the RWQCB to demonstrate that the facility’s characteristics are adequate to meet the siting and geologic criteria identified in CCR Title 27. The Central Valley RWQCB found in its 2010 adopted Water Discharge Requirements (WDRs) for the existing landfill, that site characteristics alone, without a liner, meet the performance goal of CCR Title 27 and therefore the facility is exempt from installing a single clay liner.

CalRecycle Landfill Controls and Standards

At the State level, the management of solid waste is governed by the regulations established by CalRecycle, which delegates local permitting, enforcement, and inspection responsibilities to the Local Enforcement Agency (LEA).

In 1997, some of the regulations pertaining to landfills adopted by the State Water Resources Control Board (SWRCB) (23 CCR Chapter 15) were incorporated with the CalRecycle (formerly the California Integrated Waste Management Board [CIWMB]) regulations (Title 14) to form CCR Title 27. Thus, CCR Title 27 now contains coordinated regulations of the SWRCB and CIWMB pertaining to the disposal of waste on land. Minimum standards for solid waste handling and disposal are established in 27 CCR Division 2, Chapter 3. Articles 4 and 6 contain landfill disposal site controls that relate to public health and safety:

Section 20760. CIWMB – Nuisance Control. Each disposal site shall be operated and maintained so as not to create a public nuisance.

Section 20770. CIWMB – Animal Feeding. Feeding of solid waste to animals which will be used for human consumption is prohibited on disposal sites. Grazing of livestock away from operating areas is permitted.

Section 20790 CIWMB – Leachate Control. The operator shall ensure that leachate is controlled to prevent contact with the public.

Section 20800. CIWMB – Dust Control. The operator shall take adequate measures to minimize the creation of dust and prevent safety hazards due to obscured visibility.

Section 20810. CIWMB – Vector and Bird Control. The operator shall take adequate steps to control or prevent the propagation, harborage or attraction of flies, rodents, or other vectors and to minimize bird problems.

Section 20919. CIWMB – Gas Control. Where the EA [enforcement agency], the local fire control authority, the local building authority, or the CIWMB has sufficient relevant information to believe a hazard or nuisance is being or may be created by landfill gas, it shall so notify the operator. The local fire control authority and the local building authority shall also notify the EA and the CIWMB. Thereafter, as directed by the EA, the local fire control authority, the local building authority, or the CIWMB, the site operator shall cause the site to be monitored for presence and movement of landfill gas and shall take necessary action to control such gas. The monitoring program shall be developed pursuant to the specifications of the above agencies. The monitoring program shall not be discontinued until authorized to do so in writing by the requiring agency. Results of the monitoring shall be submitted to the appropriate agencies. If monitoring indicates landfill gas movement away from the site, the operator shall, within a period of time specified by the requiring agency, construct a gas control system approved by that agency. The agency may waive this requirement if satisfactory evidence is presented demonstrating that adjacent properties are safe from hazard or nuisance caused by landfill gas movement. The operator shall duly inform the EA of possible landfill gas problems.

California Code of Regulations Title 14, Natural Resources, Division 7

Minimum regulatory standards for solid waste management, handling, and disposal as well as operating standards pertaining to health and safety are established in 14 CCR Division 7, Chapter 3. Chapter 5 establishes guidelines for enforcement of solid waste standards and administration of solid waste facilities permits. Article 6.2 of Chapter 3 establishes solid waste facility operating standards for transfer/processing operations and facilities pertaining to health and safety, which include:

Section 17408.1. Litter Control. Litter at operations and facilities shall be controlled and routinely collected to prevent safety hazards, nuisances, or similar problems and off-site migration to the greatest extent possible given existing weather conditions.

Section 17408.7. Personnel Health and Safety. The Injury, Illness, and Prevention Program shall be available for review by local and state inspectors during normal business hours. Nothing in this section is intended to make the local enforcement agency responsible for enforcing the Injury, Illness, and Prevention Program.

Section 17409.5. Loadchecking. The operator of an attended operation or facility shall implement a loadchecking program to prevent the acceptance of waste which is prohibited by this Article. This program must include at a minimum: (1) the number of random loadchecks to be performed; (2) a location for the storage of prohibited wastes removed during the loadchecking process that is separately secured or isolated; (3) records of loadchecks and the training of personnel in the recognition, proper handling, and disposition of

prohibited waste. A copy of the loadchecking program and copies of the loadchecking records for the last year shall be maintained in the operating record and be available for review by the appropriate regulatory agencies.

Section 17410.3. Training. Personnel assigned to the operation or facility shall be adequately trained in subjects pertinent to site solid waste operations and maintenance, hazardous materials recognition and screening, use of mechanized equipment, environmental controls, emergency procedures and the requirements of this Article. A record of such training history shall be maintained and made available for inspection.

Section 17410.4. Vector, Bird and Animal Control. The operator shall take adequate steps to control or prevent the propagation, harborage and attraction of flies, rodents, or other vectors, and animals, and to minimize bird attraction.

State Water Resources Control Board (SWRCB), Central Valley

The SWRCB administers CCR Title 27 (Discharges of Waste to Land), which governs the disposal of wastes in a landfill or on dedicated land disposal sites. The regulation requires that all wastes be classified to determine the appropriate type of waste management strategy to be used.

California Environmental Protection Agency (CALEPA)

The California Environmental Protection Agency (CalEPA) 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, RWQCB, CalRecycle, DTSC, Office of Environmental Health Hazard Assessment (OEHHA), and Department of Pesticide Regulation under one agency. These agencies were placed within the CalEPA "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.

California Department of Toxic Substance Control (DTSC)

DTSC, a department of CalEPA, is the primary agency in California for regulating hazardous waste, cleaning up existing contamination, and finding ways to reduce the amount of hazardous waste produced in California. DTSC regulates hazardous waste primarily under the authority of the Federal RCRA and California Health and Safety Code (primarily Division 20, Chapters 6.5–10.6, and Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. USC 65962.5 (commonly referred to as the Cortese List) intended to include DTSC-listed hazardous waste facilities and sites, California Department of Health Services (DHS) lists of contaminated drinking water wells, sites listed by the SWRCB as having underground storage tank (UST) leaks or a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites with a known migration of hazardous waste/material.

California Office of Emergency Services (OES)

In order to protect public health and safety, and the environment, the California Office of Emergency Services (OES) is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release, or threatened release, of hazardous materials. The OES requires that basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and health risks) be available to firefighters, public safety officers, and regulatory agencies. Typically, this information should be included in business plans in order to prevent or mitigate damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code, Article 1 – Hazardous Materials Release Response and Inventory Program (Sections 25500–25520) and Article 2 – Hazardous Materials Management (Sections 25531–25543.3).

Minimum statewide standards for hazardous materials business plans are established in 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). These plans must include the following: (1) a hazardous material inventory in accordance with Sections 2729.2–2729.7; (2) emergency response plans and procedures in accordance with Section 2731; and (3) training program information in accordance with Section 2732. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the state. Each business will prepare a hazardous materials business plan if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following:

- 500 pounds of a solid substance;
- 55 gallons of a liquid;
- 200 cubic feet of compressed gas;
- A hazardous compressed gas in any amount; or
- Hazardous waste in any quantity.

California Occupational Safety and Health Administration (Cal/OSHA) Safety and Health Regulations

Workers who handle or come in contact with hazardous materials, potentially hazardous wastes, or other workplace hazards are subject to worker safety requirements to protect employees. In both instances, site safety plans are mandatory as required by OSHA and California Occupational Safety and Health Administration (Cal/OSHA) requirements. Such site safety plans typically include provisions for safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency response and fire prevention plan preparation.

OSHA and Cal/OSHA are the agencies responsible for assuring worker safety in the handling and use of chemicals in the workplace. Pursuant to the Occupational Safety and Health Act of

1970, OSHA has adopted numerous regulations pertaining to worker safety; they are contained in CFR Title 29. These regulations set standards for safe workplaces and work practices.

Cal/OSHA assumes primary responsibility for developing and enforcing state workplace safety regulations. Because the State of California has a Federally approved OSHA program, it is required to, and has, adopted regulations that are at least as stringent as those found in CFR Title 29.

Cal/OSHA regulations concerning the use of hazardous materials in the workplace, as detailed in CCR Title 8, include requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations that contain training and information requirements, including procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees at hazardous waste sites. The hazard communication program requires that Material Safety Data Sheets (MSDS) be available to employees and that employee information and training programs be documented.

California Highway Patrol (CHP)

The California Highway Patrol (CHP) is an agency of the State of California with patrol jurisdiction over all California highways. The CHP performs inspections of hazardous materials carriers and enforces hazardous materials transport regulations. A valid Hazardous Materials Transportation License, issued by the CHP, is required by the laws and regulations of California Vehicle Code Section 3200.5 for transportation of either:

- Hazardous materials shipments for which the display of placards is required by State regulations; or
- Hazardous materials shipments of more than 500 pounds, which would require placards if shipping greater amounts in the same manner.

Additional requirements on the transportation of explosives, inhalation hazards, and radioactive materials are enforced by the CHP under the authority of the California Vehicle Code. Transportation of explosives generally requires consistency with additional rules and regulations for routing, safe stopping distances, and inspection stops (14 CCR 6 [1] [1150–1152.10]). Inhalation hazards face similar, more restrictive rules and regulations (13 CCR 6 [2.5] [1157–1157.8]). Transportation of radioactive materials is restricted to specific safe routes. When a hazardous material/waste spill originates on a highway, the CHP is responsible for direction of cleanup and enforcement (CCR Sections 2450–2454b).

California Department of Transportation (Caltrans)

The California Department of Transportation (Caltrans), CHP, and KCFD regulate transportation of hazardous materials. Drivers must have a hazardous materials endorsement to operate a commercial vehicle carrying hazardous materials. During the transporting of

materials, a route map must be maintained that indicates safe routing and safe stopping places along the route.

California Department of Forestry and Fire Protection (CAL FIRE)

The California Department of Forestry and Fire Protection (CAL FIRE) is dedicated to the fire protection and stewardship of over 31 million acres of California's privately owned wildlands. In addition, CAL FIRE provides varied emergency services in 36 of the State's 58 counties through contracts with local governments. CAL FIRE's firefighters, fire engines, and aircraft respond to an average of more than 5,700 wildland fires each year. Those fires burn nearly 170,000 acres annually.

Local

Kern County General Plan

The policies, goals, and implementation measures in the *Kern County General Plan* for hazards and hazardous materials applicable to the proposed project are provided below. The *Kern County General Plan* contains additional policies, goals, and implementation measures that are more general in nature and not specific to development. Therefore, they are not listed below. However, as stated in Chapter 2, Introduction, of this EIR, all policies, goals, and implementation measures in the *Kern County General Plan* are incorporated by reference.

Chapter 4. Safety Element

4.1 Introduction

Goals

Goal 1: Minimize injuries and loss of life and reduce property damage.

Goal 2: Reduce economic and social disruption resulting from earthquakes, fire, flooding, and other geologic hazards by assuring the continuity of vital emergency public services and functions.

Goal 4: Create an awareness of the residents in Kern County through the dissemination of information about geologic, fire, and flood safety hazards.

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 Measure, Which Apply to More Than One Safety Constraint

Policies

Policy 1: That the County's program of identification, mapping, and evaluating the geologic, fire, flood safety hazard areas, and significant concentrations of hydrogen sulfide in oilfield areas, presently under way by various County departments, be continued.

Policy 2: Those hazardous areas, identified as unsuitable for human occupancy, are guided toward open space uses, such as agriculture, wildlife habitat, and limited recreation.

Policy 3: That the County government encourage public support of local, State, and Federal research programs on geologic, fire, flood hazards, valley fever, plague, and other studies so that acceptable risk may be continually reevaluated and kept current with contemporary values.

Implementation Measures

Implementation 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.

Implementation Measure C: Require detailed site studies for ground shaking characteristics, liquefaction potential, dam failure inundation, flooding potential, and fault rupture potential as background to the design process for critical facilities under County discretionary approval.

Implementation 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 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

Implementation 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

Policy

Policy 2: Innovative technologies to manage hazardous waste streams generated in Kern County will be encouraged.

Implementation Measures

Implementation Measure A: Facilities used to manufacture, store, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent on-site hazards from affecting surrounding communities in the event of inundation.

Kern County Wildland Fire Management Plan

The *Kern County Wildland Fire Management Plan* documents the assessment of wildland fire situations throughout the SRAs within Kern County. The Wildland Fire Management Plan provides for systematically assessing the existing levels of wildland protection services and identifying high-risk and high-value areas that are potential locations for costly and damaging wildfires. The goal of the plan is to reduce costs and losses from wildfire by protecting assets at risk through focused pre-fire management prescriptions and increasing initial attack success. Based on this assessment, preventive measures are implemented, including the creation of wildfire protection zones.

Kern County Public Health Department, Environmental Health Services Division

The County of Kern Environmental Health Services Division 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 California Fire Code). This department also provides emergency response to hazardous materials events, performing health and environmental risk assessment and substance identification.

Kern County Multi-Jurisdiction Hazard Mitigation Plan

The Kern County Multi-Jurisdiction Hazard Mitigation Plan (KCOES 2012) is meant to guide hazard mitigation planning to better protect the people and property in Kern County from hazard events. This plan was also developed to ensure Kern County and participating jurisdictions' continued eligibility for certain Federal disaster assistance—specifically, the Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance (HMA) grants, including the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation Program (PDM), and Flood Mitigation Assistance Program (FMAP). The plan is also important for maintaining and improving the standing of the County in the National Flood Insurance Program (NFIP) Community Rating System (CRS), which provides for lower flood insurance premiums to the residents in the unincorporated areas. (KCOES 2012).

Kern County Municipal Code

The Kern County Municipal Code also provides guidance regarding development within areas susceptible to wildland fires. Implementation is through the zoning ordinance, land division ordinance, and building code. Pertinent sections of these ordinances pertaining to fire prevention are discussed below.

Kern County Ordinance No. G-183

Kern County Ordinance No. G-1832 dictates ingress and egress standards that allow access for fire apparatus. These design standards are enforced within the Hazardous Fire Area during the fire season.

Fuel breaks and/or fire breaks separating communities or clusters of structures from the native vegetation may be required. Such fuel breaks may be “greenbelts,” as all vegetation need not be removed but rather thinned or landscaped to reduce the volume of fuel. All fuel and firebreaks shall meet the minimum design standards of the fire chief, including the Maintenance of Defensible Space requirements of the Kern County Wildland-Urban Interface Code (WUI Code), as follows:

- A firebreak shall consist of a strip, a minimum of 10 feet wide, cleared to mineral soil on each side of a road, or a width determined by the fire chief to be adequate for the general terrain and type of groundcover.
- Firebreaks are not to be used as roads, parking areas, or storage areas.
- All easements for fuel breaks for fire safety of built-up areas shall encompass access for firefighting personnel and equipment, which may mean motorized travel in some cases; such easements shall be dedicated for this specific purpose to an entity composed of the property owners. The property owners shall be charged with the maintenance of such easements.

Kern County and Incorporated Cities Hazardous Waste Management Plan

In response to the growing public concern regarding hazardous waste management, AB 2948 enacted legislation authorizing local governments to develop comprehensive hazardous waste management plans. The intent of each plan is to ensure that adequate treatment and disposal capacity is available to manage the hazardous wastes generated within the local government's jurisdiction.

The *Kern County and Incorporated Cities Hazardous Waste Management Plan* (Hazardous Waste Plan) was first adopted by Kern County and each incorporated City before September 1988 and was subsequently approved by the DHS. The Hazardous Waste Plan was updated and incorporated by reference into the *Kern County General Plan* in 2004 as permitted by Health and Safety Code Section 25135.7(b), and thus must be consistent with all other aspects of the *Kern County General Plan*.

The Hazardous Waste Plan provides policy direction and action programs to address current and future hazardous waste management issues that require local responsibility and involvement in Kern County. In addition, the Hazardous Waste Plan discusses hazardous waste issues and analyzes current and future waste generation in Federal, State, County, and incorporated Cities lands. The purpose of the Hazardous Waste Plan is to coordinate local implementation of a regional action to effect comprehensive hazardous waste management throughout Kern County. The action program focuses on development of programs to equitably site needed hazardous waste management facilities; to promote on-site source reduction, treatment, and recycling; and to provide for the collection and treatment of small-quantity hazardous waste generators. An important component of the Hazardous Waste Plan is the monitoring of hazardous waste management facilities to ensure compliance with Federal and State hazardous waste regulations. The siting criteria and any subsequent environmental documentation required pursuant to the California Environmental Quality Act (CEQA) would also ensure the mitigation of adverse impacts associated with the siting of any new hazardous waste facility.

Mosquito Abatement and Vector Control

Project features may potentially provide potential breeding sites for mosquitoes, flies, or other vectors. The KCEHSD works co-operatively with the DHS Vector-borne Disease Branch, local government agencies, and mosquito abatement/vector control districts to safeguard the general public and combat the spread of vector borne diseases within Kern County. The project site is located within the Westside Mosquito and Vector Control District. The KCEHSD is responsible for inspecting the project site for evidence of vector activity if a complaint is received from a member of the public.

4.8.4 Impacts and Mitigation Measures

This section evaluates the impacts associated with implementation of the project related to the risk of upset due to potential hazardous substances, including hazardous materials and/or hazardous waste within the project sites and the vicinity, as well as other hazards to public safety. The impact analysis describes the methods used to determine the project's impacts and

lists the thresholds used to conclude the significance of an impact. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, where applicable, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

The methodology for determining impacts relating to hazardous materials focuses on: (1) the potentially significant impacts related to the routine transport, use, or disposal of hazardous materials and the release of hazardous materials into the environment; (2) environmentally persistent agricultural chemicals (pesticides and herbicides); and (3) proposed project components that could result in environmental contamination.

The methodology for the evaluation of potential project impacts related to interference with an adopted emergency response plan or emergency evacuation plan focuses on the project's potential removal or alteration of all, or a portion, of an existing emergency response and/or evacuation route during construction or operation of the project. The proposed 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 impacts relating to wildland fires focuses on the fire severity at the project sites and the surrounding areas based on existing state and local maps and land characteristics.

Thresholds of Significance

The Kern County CEQA Implementation Document and the Kern County Environmental Checklist identifies 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 hazards and hazardous materials.

The Kern County Environmental Checklist states that a project would normally be considered to have a significant impact related to hazards and hazardous materials if it would:

- a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 1/4 mile of an existing or proposed school;

- d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- e. For a project located within the adopted Kern County Airport Land Use Compatibility Plan, the project would result in a safety hazard or excessive noise for people residing or working in the project area;
- f. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan;
- g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires;
- h. Would generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, if it would 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 and Mitigation Measures

Impact 4.8-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

eASP Composting Facility

Construction

Construction of the proposed extended Aerated Static Pile (eASP) system may include the use of potentially flammable or otherwise hazardous materials such as paints, glues, and solvents. The project proponent would store all fuels, oils, solvents, and any other hazardous materials in the manner specified by the manufacturer and in accordance with all applicable Federal, State, and local regulations. These materials would be transported to the project site during construction, and any hazardous waste that is produced as a result of construction of the

composting facility would be collected and transported away from the site. During construction of the composting facility, Safety Data Sheets (SDSs) for all applicable materials present at the site would be made readily available to on-site personnel in accordance with required best management practices (BMPs) as part of a Stormwater Pollution Prevention Plan (SWPPP) and an SPCC Response Plan (see Section 4.10, *Hydrology and Water Quality*). Workers would be trained to properly identify and handle all hazardous materials. Hazardous waste would either be recycled or disposed of at a permitted and licensed treatment and/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.

During construction of the facilities, non-hazardous construction debris would be generated and disposed of at either the adjoining landfill if the debris is an approved waste stream, or at an approved disposal facility. Sanitary waste would be managed using portable toilets located at a reasonably accessible on-site location. Compliance with applicable regulations would ensure that construction of the project would not create a significant hazard to the public or the environment through the transport and disposal of hazardous materials. As described in Section 4.17, *Utilities and Service Systems*, Mitigation Measure MM 4.17-3 (COM, BEF) would require debris and waste generated to be recycled to the extent feasible during construction, operation, and decommissioning and the designation of a Recycling Coordinator to facilitate recycling of all waste through coordination with the on-site contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes.

Hazardous materials such as petroleum fuels and lubricants used on field equipment would be subject to the Material Disposal and Solid Waste Management Plan, the SPCC plan, and other measures to limit releases of hazardous materials and wastes (see further discussion of BMP requirements in Section 4.10, *Hydrology and Water Quality*, of this EIR). Recyclable materials, including wood, shipping materials, and metals, would be separated when possible for recycling. Liquids and oils in the transformer and other equipment would be used in accordance with applicable regulations. The disposal of all oils, lubricants, and spent filters would be performed in accordance with all applicable regulations including the requirements of licensed receiving facilities. Overall, the relatively limited use and small quantities of hazardous materials, and subsequent transport and disposal of such materials, during construction would be controlled through compliance with applicable regulations, including the Hazardous Waste Plan. As such, impacts during construction would be less than significant with mitigation.

Operation

Site A of the project is an existing Class III, non-hazardous industrial landfill and, therefore, hazardous waste is not currently accepted for disposal. The proposed eASP composting facility would accept the feedstock types identified in **Table 3-4, Proposed Compost Feedstock**, in Chapter 3, *Project Description*. The feedstock materials are classified as non-hazardous. Similar to the existing landfill, the composting facility would include the transport and use of flammable and other hazardous materials such as diesel fuels.

Mitigation Measure MM 4.8-1 (COM, BEF) requires that the existing Landfill Operations Safety Plan be updated to include additional measures to address worker safety and protection associated with the proposed composting facility; therefore, impacts would be less than

significant with mitigation. In addition, Mitigation Measure MM 4.8-2 (COM, BEF) requires the preparation of a Hazardous Materials Business Plan that would describe proper handling, storage, transport, and disposal techniques and methods to be used to avoid spills and minimize impacts in the event of a spill, and would ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to workers or the public. Therefore, impacts would be less than significant with mitigation.

Bioenergy Facility

Construction

Construction of the proposed bioenergy facility may include the use of potentially flammable or otherwise hazardous materials, such as paints, glues, and solvents. The project proponent would store all fuels, oils, solvents, and any other hazardous materials in the manner specified by the manufacturer and in accordance with all applicable Federal, State, and local regulations. These materials would be transported to the project site during construction, and any hazardous wastes that are produced as a result of construction of the bioenergy facility would be collected and transported away from the site. During construction of the bioenergy facility, SDSs for all applicable materials present at the site would be made readily available to on-site personnel in accordance with required BMPs as part of a SWPPP and an SPCC Response Plan (see Section 4.10, *Hydrology and Water Quality*). Workers would be trained to properly identify and handle all hazardous materials. Hazardous waste would either be recycled or disposed of at a permitted and licensed treatment and/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.

During construction of the bioenergy facility, non-hazardous construction debris would be generated and disposed of at either the adjoining landfill, if the debris is an approved waste stream, or at an approved disposal facility. Sanitary waste would be managed using portable toilets located at a reasonably accessible on-site location. Compliance with applicable regulations would ensure that construction of the bioenergy facility would not create a significant hazard to the public or the environment through the transport or disposal of hazardous materials. As described in Section 4.17, *Utilities and Service Systems*, Mitigation Measure MM 4.17-3 (COM, BEF) would require debris and waste generated to be recycled to the extent feasible during construction, operation, and decommissioning and the designation of a Recycling Coordinator to facilitate recycling of all waste through coordination with the on-site contractors, local waste haulers, and/or other facilities that recycle construction/demolition waste.

Hazardous materials such as petroleum fuels and lubricants used on field equipment would be subject to the Material Disposal and Solid Waste Management Plan, the SPCC plan, and other measures to limit releases of hazardous materials and wastes (see further discussion of BMP requirements in Section 4.10, *Hydrology and Water Quality*, of this EIR). Recyclable materials, including wood, shipping materials, and metals, would be separated when possible for recycling. Liquids and oils in the transformer and other equipment would be used in accordance with applicable regulations. The disposal of all oils, lubricants, and spent filters would be

performed in accordance with all applicable regulations including the requirements of licensed receiving facilities. Overall, the relatively limited use and small quantities of hazardous materials, and subsequent transport and disposal of such materials, during construction would be controlled through compliance with applicable regulations including the Hazardous Waste Plan. As such, impacts during construction would be less than significant with mitigation.

Operation

Site B is an existing disturbed area used for equipment storage and parking. The project would require the transport, storage, and use of fuels and other fluids for fueling/servicing of construction and operation equipment. Feed stocks for use at the bioenergy facility are identified in **Table 3-10, Proposed Bioenergy Facility Biomass Feedstocks**, in Chapter 3, *Project Description*. The bioenergy facility would require approximately 10,000 gallons of (19%) aqueous ammonia, to be stored on-site. The ammonia would be delivered to the site via truck and unloaded into a storage tank. Additional materials needed for operation of the bioenergy facility include the Organic Rankine Cycle (ORC) working fluid, heating oil, and Sorbacal SP (a high surface area hydrated lime). The exact ORC working fluid is unknown at this time but would likely be a hydrocarbon or fluorocarbon product. Hydrocarbons are generally low toxicity but are highly flammable. Fluorocarbons are also generally low toxicity but can be highly reactive. Sorbacal SP can cause eye and skin irritation and can cause respiratory irritation or cancer if inhaled (Lhoist 2020). Transportation, storage, and disposal/recycling of such products is extensively regulated at the Federal, State, and local levels. Operational activities associated with the bioenergy facility would be required to comply with these regulations.

Aqueous ammonia is listed as a hazardous substance under the CWA (40 CFR 116.4 and 117.3) and is classified as hazardous waste under the RCRA (40 CFR 261.22 Corrosive #D002) (Tanner Industries 2020). Primary concerns regarding accidental releases of aqueous ammonia are related to groundwater contamination, inhalation of vapors, ingestion, or contact with skin or eyes. Accidental releases of aqueous ammonia could occur from leaking seals, piping failures due to the loss of mechanical integrity and corrosion, physical damage of the system components, and hose failures that occur during ammonia deliveries, which would occur with a tanker truck and likely be unloaded either by pressure or pumping into a storage tank. Due to the rural nature of the surrounding area, potential hazards to the public are minimal. However, employees of the bioenergy facility, nearby landfill, gypsum mine, or oil field may be exposed to aqueous ammonia in the event of an accidental release. The most likely exposure to aqueous ammonia would be from vapor inhalation or skin and eye contact. Inhalation can result in irritation of the respiratory tract, bronchospasm, edema, or respiratory arrest (Tanner Industries 2020). Physical contact with aqueous ammonia can result in irritation, corrosive burns, blisters, caustic burns, or blindness (Tanner Industries 2020). Impacts related to the accidental release of aqueous ammonia would be potentially significant and require mitigation to reduce potential impacts. Mitigation Measure MM 4.8-1 (COM, BEF) requires that the landfill facility's existing Landfill Operations Safety Plan be updated to include additional measures to address worker safety and protection associated with the proposed bioenergy facility. In addition, Mitigation Measure MM 4.8-2 (COM, BEF), which requires the preparation of a Hazardous Materials Business Plan that would describe proper handling, storage, transport, and disposal

techniques and methods to be used to avoid spills and minimize impacts in the event of a spill, would ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to workers or the public. Additionally, per Mitigation Measure MM 4.8-3 (COM, BEF), the project proponent would be required to obtain a Spill Prevention Control and Countermeasures Response Plan from the California Department of Water Resources and the Kern County Public Health Services Department/ Environmental Health Services Division.

A Phase I ESA was prepared for the project (AEC 2020) to evaluate existing hazards associated with Site B. East of the concrete wash pad, AEC observed an unpaved area for staging heavy equipment; the soil surface where the equipment is parked exhibited hydrocarbon staining. Along the north boundary of Site B, AEC observed storage of portable lighting equipment, used tires and rims, and a trailer equipped with a 350-gallon diesel aboveground storage tank (AST) and two 55-gallon drums of hydraulic oil and grease. Hydrocarbon staining was evident on the soil at multiple locations along this northern fence line as well as beneath the trailer equipped with the diesel AST and drums. (AEC 2020). Human exposure to hydrocarbon contamination results from inhalation (through soil dust or vapors), ingestion (through groundwater contamination), or through direct physical contact. Hydrocarbons are known to have carcinogenic, mutagenic, and toxic effects on humans, including impairment of the liver and kidneys (Wang 2017). Construction workers and employees may come into contact with hydrocarbon contamination at Site B, which would be potentially significant. Mitigation Measure MM 4.8-4 (BEF) requires testing and proper disposal of the hydrocarbon-impacted soil; therefore, impacts would be less than significant with mitigation.

Landfill Facility

The project proponent is requesting to modify the landfill facility's existing CUP to allow for an increase in the operating hours and an expansion in the waste streams allowed for acceptance at the landfill, as shown in **Table 3-8, Proposed Landfill Waste Streams to be Permitted Under the Proposed Project**, in Chapter 3, *Project Description*. The CUP currently allows for acceptance of up to 2,000 tons per day (TPD), in any combination, of the following waste streams: Dewatered Class A and B Biosolids, Fly Ash, Treated Auto Shredder Waste, and Lime Filter Cake. Incoming materials that are mandated for diversion by CalRecycle regulations would be diverted, as feasible, to either the composting facility or bioenergy facility. The project proponent is not requesting an increase in daily tonnage limits of waste streams coming to the landfill; however, it should be noted the maximum daily tonnage coming to the facility would increase to 3,753 TPD to accommodate both landfill disposal and composting operations. No new pits or facilities would be constructed for disposal of the additional waste streams.

In addition to the materials listed in Table 3-8, waste types that may be considered for disposal in the future are listed in **Table 3-9, Waste Materials for Future Consideration**, in Chapter 3, *Project Description*. The project does not include a request to add the waste streams in Table 3-9 to the CUP. However, dependent on future market demands and regulatory environment, the project proponent may request an additional modification to CUP #9, Map 28 to include some or all of these materials for disposal. Therefore, this EIR evaluates the potential impacts from acceptance and disposal of the materials listed in both Tables 3-8 and 3-9.

Based on the materials listed in Tables 3-8 and 3-9, expansion of the allowable waste stream for the landfill would not contain hazardous waste as defined in CCR Chapter 66261 (non-friable asbestos is not considered hazardous waste per Section 66261.24). Therefore, impacts associated with the waste stream expansion would be less than significant.

The project includes the continued transport and use of flammable and other hazardous materials such as diesel fuels. The transportation of hazardous materials is heavily regulated by both Federal and State agencies (see Section 4.8.3, *Regulatory Setting*). Enforcement of hazardous materials transport regulations is primarily the responsibility of the CHP when transport occurs on the State highway system; however, this analysis reasonably assumes that such materials would be transported in accordance with applicable regulations. Before any such materials are transported, the carrier must obtain a Hazardous Materials Transportation License (either temporary or otherwise) from the CHP. As part of that licensing process, the carrier's equipment and methods would be inspected by the CHP, and the carrier would be informed of the proper routes to and from the project site. In addition to the CHP license, transportation of hazardous materials would be required to follow all applicable Federal and State laws regarding such transport. All hazardous materials at the project would be handled and stored in compliance with the requirements set forth in applicable codes and regulations. The project proponent would store all fuels, oils, solvents, and any other hazardous materials in the manner specified by the manufacturer and in accordance with all applicable Federal, State, and local regulations. Therefore, impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.17-3 (COM, BEF) (see Section 4.17, *Utilities and Service Systems*, for mitigation measures), in addition to the mitigation measures listed below.

MM 4.8-1 (COM, BEF) Prior to operation of the composting and bioenergy facilities, the project proponent/operator shall update the existing Landfill Operations Safety Plan to include additional measures to address worker safety and protection associated with operation of the new facilities. The updated plan shall include specific measures regarding the handling of aqueous ammonia and shall require training for all personnel involved in the handling of aqueous ammonia. The plan shall also include a summary identifying how the project proponent will implement the requirements for storage and handling of aqueous ammonia to assure the facility is adequately designed to minimize the potential for accidental releases.

MM 4.8-2 (COM, BEF) During the life of the composting and bioenergy facilities, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan for each facility, as applicable, pursuant to Article 1 and Article 2 of California Health and Safety Code 6.95 and in accordance with Kern County Ordinance Code 8.04.030, by submitting all the required information to the California Environmental Reporting System at <http://cers.calepa.ca.gov/> for review and acceptance by the Kern County Environmental Health Services Department/Hazardous Materials Section. The Hazardous Materials Business Plan shall:

- a. Delineate hazardous material and hazardous waste storage areas.
- b. Describe proper handling, storage, transport, and disposal techniques.
- c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill.
- d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction 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.

The project proponent shall ensure that all contractors working on the project are familiar with the facility's Hazardous Materials Business Plan as well as ensure that one copy is available at the project site at all times. In addition, a copy of the accepted Hazardous Materials Business Plan from the California Environmental Reporting System shall be submitted to the Kern County Planning and Natural Resources Department for inclusion in the project's permanent record.

MM 4.8-3 (COM, BEF) The project proponent shall obtain approval of a Spill Prevention Control and Countermeasures Response Plan from the California Department of Water Resources and the Kern County Public Health Services Department/Environmental Health Services Division.

MM 4.8-4 (BEF) Prior to issuance of construction or grading permits at Site B, the project proponent shall conduct testing of a composite sample of the hydrocarbon-impacted soil and analyze the soil for Total Petroleum Hydrocarbons as carbon chain (TPH-cc), Volatile Organic Compounds (VOCs), and Title 22 Metals for profiling purposes. After issuance of construction or grading permits, before any ground disturbance, and once the profile has been accepted by the testing laboratory, the project proponent shall excavate the soil and dispose of the contaminated soil off-site at an approved landfill to the satisfaction of the Kern County Planning and Natural Resources Department.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.17-3 (COM, BEF) (see Section 4.17, *Utilities and Service Systems*, for mitigation measure), MM 4.8-1 (COM, BEF), MM 4.8-2 (COM, BEF), MM 4.8-3 (COM, BEF), and MM 4.8-4 (BEF), impacts would be less than significant.

Impact 4.8-2: 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.

eASP Composting Facility

As stated above, as a Class III non-hazardous industrial waste landfill facility, hazardous waste is not accepted for disposal at the landfill. The facility is not open to the general public and the concentration of hazardous waste inadvertently entering the facility is minimal. Transport of hazardous waste on public roads would conform to all legal requirements, including those of Caltrans and the CHP, and the guidelines of the DTSC. Hazardous materials for the composting facility would be similar to the existing landfill and would be limited to the minimal quantities of fuels, oils, lubricants, hydraulic fluids, etc. utilized by the equipment at the facility. During construction and operation, proper management and control measures would be implemented to prevent threats to human health and the environment. The existing landfill operates under the site's Report of Disposal Site Information and Emergency Preparedness Plan, which includes provisions for preventing and responding to hazardous materials release. The project proponent would be required to implement Mitigation Measure MM 4.8-5 (COM, BEF), which would require the facility's existing Report of Disposal Site Information and Emergency Preparedness Plan to be updated to include additional measures associated with operation of the new composting facility. Implementation of Mitigation Measure MM 4.8-5 (COM, BEF) would ensure potential impacts would be less than significant.

Bioenergy Facility

The project proposes to install a three-train downdraft gasifier system designed to convert agricultural waste into biogas by heating the waste in an oxygen starved vessel (gasifier). The biogas is then combusted to produce thermal energy (hot air) that is used to drive an ORC generator to produce electricity. Operation of the bioenergy facility would result in the creation of biogas, which is primarily a mixture of methane and carbon dioxide. Biogas is a flammable gas and requires fire protection measures.

The gasifiers are closed systems with no vents to the atmosphere. The gasifiers produce syngas which is oxidized in the thermal oxidizer to generate heat. The ORC power generation unit operates on heat provided by the thermal oxidizer via the heat transfer (thermal) fluid to vaporize a working fluid which drives a turbine connected to a generator. The ORC utilizes an organic working fluid in a closed, sealed system and thus, has no emissions. The hot flue gas from the thermal oxidizer undergoes treatment for emissions reduction prior to discharge to the atmosphere. A Selective Catalytic Reduction (SCR) system uses the aqueous ammonia to remove 95% of NO_x emissions. The unprocessed ammonia slip, or release, from the SCR is assumed to be 10 parts per million (ppm) by volume (Yorke Engineering 2020).

As discussed in Impact 4.8-1, the bioenergy facility would require approximately 10,000 gallons of (19%) aqueous ammonia to be stored and used on-site. Employees of the bioenergy facility, nearby landfill, or gypsum mine may be exposed to aqueous ammonia in the event of

a release. The most likely exposure to aqueous ammonia would be from vapor inhalation or skin and eye contact. Inhalation can result in irritation of the respiratory tract, bronchospasm, edema, or respiratory arrest (Tanner Industries 2020). Physical contact with aqueous ammonia can result in irritation, corrosive burns, blisters, caustic burns, or blindness (Tanner Industries 2020). Accidental release of aqueous ammonia would be potentially significant and requires mitigation. The project would be required to implement Mitigation Measure MM 4.8-5 (COM, BEF), which would require the landfill facility's existing Report of Disposal Site Information and Emergency Preparedness Plan to be updated to include additional measures associated with operation of the new bioenergy facility. Implementation of Mitigation Measure MM 4.8-5 (COM, BEF) would ensure potential impacts would be less than significant.

Landfill Facility

The project proponent is requesting to modify the CUP to allow an expansion of the waste streams allowed for acceptance at the landfill, as shown in **Table 3-8, Proposed Landfill Waste Streams to be Permitted Under the Proposed Project**. The CUP currently allows for acceptance of up to 2,000 TPD, in any combination, of the following waste streams: Class A and B Biosolids, Fly Ash, Treated Auto Shredder Waste, and Lime Filter Cake. Incoming materials that are mandated for diversion by CalRecycle regulations would be diverted, as feasible, to either the compost facility or bioenergy facility. The project proponent is not requesting an increase in daily tonnage limits of waste streams coming to the landfill; however, it should be noted the maximum daily tonnage coming to the facility would increase to 3,753 TPD to accommodate both landfill disposal and composting operations.

In addition to the materials listed in Table 3-8, waste types that may be considered for disposal in the future are listed in **Table 3-9, Waste Materials for Future Consideration**. Currently, the project proponent is not requesting to include the acceptance of these materials for disposal in the proposed modification #2 to CUP #9, Map 28. However, dependent on future market demands and regulatory environment, the project proponent may request an additional modification to CUP #9, Map 28 to include a portion, or all, of these materials for disposal. Therefore, this EIR evaluates the potential impacts from acceptance and disposal of the materials listed in both Tables 3-8 and 3-9.

Based on the materials listed in Tables 3-8 and 3-9, expansion of the allowable waste stream for the landfill would not contain hazardous waste as defined in CCR Chapter 66261 (non-friable asbestos is not considered hazardous waste per Section 66261.24). Therefore, impacts associated with the waste stream expansion would be less than significant.

Mitigation Measures

MM 4.8-5 (COM, BEF) Prior to operation of the composting and bioenergy facilities, the project proponent shall update the landfill facility's existing Report of Disposal Site Information and Emergency Preparedness Plan to include additional measures associated with the operation of the new composting and bioenergy facilities.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.8-5 (COM, BEF), impacts would be less than significant.

Impact 4.8-3: The project is not located within ¼ mile of an existing or proposed school. Therefore, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The project is not located within 0.25 mile of an existing or proposed school. The nearest schools to the project sites are Lost Hills Elementary School and A.M Thomas Middle School, located within the Lost Hills Unified School District, approximately 4.3 miles southeast of the project sites in the community of Lost Hills. No new schools are planned to be constructed within a 0.25 mile of the project site. The project would not emit hazardous materials or require handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school; therefore, no impact would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.8-4: The project is not located on a site that is included on a list of hazardous materials sites pursuant to Government Code Section 65962.5, and as a result would not create a significant hazard to the public or environment.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

A review of the Cal/EPA DTSC's latest list of data resources providing information regarding the facilities or sites identified as meeting California Government Code Section 65962.5 requirements relating to hazardous wastes has been conducted and has determined the project sites are not listed as a hazardous waste or substance site. Therefore, no impact would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.8-5: The project is not located within the adopted Kern County Airport Land Use Compatibility Plan and the project would not result in a safety hazard or excessive noise for people residing or working in the project area.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The project sites are not located within the adopted Kern County Airport Land Use Plan area, nor do they fall within any specific airport sphere of influence identified by the Kern County ALUCP. The project sites are approximately 3.24 miles northwest of the Lost Hills Airport sphere of influence and 4.12 miles from the end of its runway. Therefore, no impact would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.8-6: The project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The Kern County Emergency Operations Plan (KCEOP) establishes an emergency management organization and assigns functions and tasks consistent with the California Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS). The KCEOP provides for the integration and coordination of the planning efforts of Kern County with those of its cities, towns, and unincorporated areas. The intent of the KCEOP is to facilitate emergency response and short-term recovery by providing a framework for response to all significant emergencies, regardless of the nature of the event.

The proposed project would not hinder the County's implementation of its emergency response and emergency evacuation plans. As the primary east-west transportation corridor through the community of Lost Hills, the adjacent SR 46 serves as an obvious route for both emergency response and emergency evacuation purposes. An increase in short-term construction traffic is anticipated and could temporarily affect traffic flow on SR 46. However, SR 46 includes wide paved lanes that could be used by vehicles to allow emergency vehicles to pass. As discussed in Section 4.15, *Transportation and Traffic*, of this EIR, operation of the proposed project

would not result in an unacceptable level of service at surrounding intersections or cause unacceptable capacity levels on nearby roadway segments.

While impacts would be less than significant, Mitigation Measure MM 4.15-3 (COM, BEF), included in Section 4.15, *Transportation and Traffic*, which requires the preparation of a Construction Traffic Control Plan that considers access for emergency vehicles to the project site, would provide further assurances for emergency access.

Additionally, the project site is in a rural area with two routes available to access the property in the event of an emergency. Therefore, impacts are considered less than significant.

Mitigation Measures

Implement Mitigation Measure MM 4.15-3 (COM, BEF) (see Section 4.15, *Transportation and Traffic*, for mitigation measure).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.15-3 (COM, BEF) (see Section 4.15, *Transportation and Traffic*, for mitigation measure), impacts would be less than significant.

Impact 4.8-7: The project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

eASP Composting Facility and Landfill Facility

The proposed composting site is located on flat to gently sloping terrain. With the exception of the northeastern portion of Site A, the site consists almost entirely of developed/disturbed surfaces. The areas surrounding Site A generally consist of mining activities and undeveloped land. No residences are in the site vicinity.

Site A is located within an area identified as Moderate and Non-Wildland/Non-Urban FHSZ. Project activities would occur within an existing landfill site and would not result in new ground disturbance outside of existing disturbed areas. The design and construction of the landfill would prevent the spread of landfill fires to the surrounding areas. Perimeter roads and drainage structures surrounding the site are relatively free of vegetation, thus providing a fire break.

Without proper controls, landfill and composting facilities may pose a significant fire hazard. Several types of fires may occur at landfill and composting facilities, including surface, subsurface, and vehicle fires. Subsurface fires are underground fires that typically ignite as a result of spontaneous combustion. Factors involved in assessing the potential significance of fire impacts to landfill and composting facilities are prevention, accessibility of response, and the effects of buried combustion material byproducts (such as methane).

The potential for surface and subsurface fires at the existing landfill is considered low. Current landfill operations include covering the waste daily and compacting the fill, which reduces oxygen intrusion that can create heat and lead to spontaneous combustion. Likewise, vehicle fires are preventable with proper maintenance. In order to assure adequate measures are in place to prevent fires, Mitigation Measure MM 4.8-6 (COM, BEF, LDF) would require the preparation of a Fire Prevention Plan that would detail measures to prevent fire at the project site. Additionally, Mitigation Measure MM 4.8-5 (COM, BEF) would require the landfill facility's Report of Disposal Site Information and Emergency Preparedness Plan to be updated to include the composting facility. Therefore, impacts would be less than significant with mitigation.

Bioenergy Facility

Site B consists entirely of developed and disturbed surfaces and does not support any vegetation. The areas surrounding Site B consist generally of mining activities and undeveloped land. No residences are in the site's vicinity. Site B is located within an area identified as Non-Wildland/Non-Urban FHSZ. Project activities would have a low risk of causing wildfire due to the location on existing disturbed and developed surfaces and lack of vegetation within the site.

The proposed bioenergy facility would include the following associated infrastructure: a substation, a 4.16/21-kilovolt (kV) transformer, a switchyard, and an overhead generation-tie line (gen-tie line). The substation, 4.16/21 kV transformer, and switchyard would be located adjacent to the bioenergy facility within Site B. As such, this associated infrastructure would not be placed within a high fire hazard zone or in a vegetated area. The gen-tie line would facilitate the export of power generated from the bioenergy facility to the existing Pacific Gas and Electric Company (PG&E) electrical grid. The project would connect the proposed bioenergy facility to the PG&E distribution system at PG&E's Twisselman 2105 distribution circuit on the south side of G P Road, immediately south of Site B. The gen-tie line would extend approximately 12 miles and connect the switchyard to the Twisselman Substation. The gen-tie line would generally trend northwards from the switchyard and span land subject to mining and agricultural uses before heading west along Twisselman Road. Installation of the utility poles would require the establishment of temporary work areas. It is expected that construction crews would access the temporary work areas using existing roadways or overland access routes.

Mitigation Measure MM 4.8-5 (COM, BEF) would require the landfill facility's Report of Disposal Site Information and Emergency Preparedness Plan to be updated prior to operation of the bioenergy facility. Additionally, Mitigation Measure MM 4.8-6 (COM, BEF, LDF) would require the preparation of a Fire Prevention Plan that would detail measures to prevent fires at the project site, including during construction. Impacts would be less than significant with mitigation.

Mitigation Measures

Implement Mitigation Measure MM 4.8-5 (COM, BEF), in addition to the measure listed below.

MM 4.8-6 (COM, BEF, LDF) Prior to operation of the composting, bioenergy, and landfill facilities and acceptance of additional waste streams at the landfill, the project proponent shall prepare a Fire Prevention Plan for review and approval by Kern County in conjunction with the Kern County Fire Department.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.8-5 (COM, BEF) and MM 4.8-6 (COM, BEF, LDF), impacts would be less than significant.

Impact 4.8-8: The project would generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste exceeding adopted qualitative thresholds.

eASP Composting Facility and Landfill Facility

The landfill facility has been in operation since 1997 and currently accepts waste streams that have the potential to generate vectors such as flies, mosquitoes, and rodents. There have been no recorded complaints of vector activity for the current operation (Palmetto Engineering and Land Surveying, Inc. 2020).

The addition of feedstocks for landfilling and composting would introduce the potential to generate additional vectors during operation. Vectors at the landfill and composting facility would be managed properly in accordance with CalRecycle regulations (CCR Titles 14 and 27) and enforced by the LEA through the Solid Waste Facility Permit. The proposed design, layout, and management methods for the proposed project would be designed to reduce the potential for vector generation. The pre-grinding process, immediate placement of the organic materials into the windrows, and high temperature and forced aeration during the active composting phase are natural deterrents to flies and destroy fly larvae, pupae, and eggs. In addition, the aerobic windrow composting process generally does not attract birds or rodents.

The following impact analysis is based on the Vector and Pathogen Report (Palmetto Engineering and Land Surveying, Inc. 2020):

- **Flies.** Although planned project operations do not encourage fly breeding, it is possible that biosolids disposal pit “edge” areas, truck spillage, or truck washdown detritus might provide fly breeding opportunities. Areas with water have been shown to provide an opportune habitat to harbor fly propagation.
- **Rodents.** A barbed wire fence has been placed around all the receiving pits and active operating area within and along the landfill area at the direction of the owner/operator and LEA. The fence was constructed prior to acceptance of any waste under a new Solid Waste Facility Permit. The fence includes a mesh barrier to prevent access to small animals and covers the entire permitted boundary.

The potential for rodent vector impacts is minimal because of the required cover frequency of the waste streams. There is no opportunity for incidental food sources or burrow areas to be available.

- **Mosquitos.** A truck and equipment rinsate system is used to clean dewatered Class A and B biosolids transport and disposal vehicles prior to public road entry or reuse. The potential for mosquito breeding and propagation is minimal due to the daily cover requirements, and by the absence of standing water inherent in the facility site design. Additionally, the leachate collection and recovery system design does not allow for the accumulation of shallow or stagnant water for potential mosquito breeding, nor does the containment system for rinsate water.

All waste streams are covered in accordance with 27 CCR 20680 requirements. Operations would maintain a small, compact working face that is covered daily. All imported, approved waste streams in the landfill disposal operations would continue to be covered daily with native on-site soils and compacted. Cell construction would be designed to promote drainage and minimize uncontrolled runoff. Further, any areas of the landfill that have not received waste for a 180-day period receive intermediate cover to reduce the potential attractants and conditions favorable for vectors.

When approved imported waste is placed over a working depositional surface within 180 days, the surface receives intermediate cover to provide a minimum 12 inches thick compacted intermediate soil cover, in accordance with 27 CCR 2700 requirements. The intermediate soil cover would be applied and compacted in generally the same manner as that described above for daily cover.

Vector management measures were implemented prior to acceptance of dewatered Class A and B biosolids disposal. The landfill has developed vector-related design and operational features to control or prevent the propagation, harborage, or attraction of flies, rodents, and birds. In accordance with the requirements of 27 CCR 20810, H. M. Holloway received approval of an Integrated Pest Management Plan (IPMP) by the Kern County Mosquito and Vector Control District and KCEHSD, and fully implements this plan. The IPMP is designed to use good housekeeping practices as the primary abatement tool. Such measures combat vector infestation by ensuring good drainage of dewatered Class A and B biosolids areas, frequent flushing, cleanup and maintenance of dewatered Class A and B biosolids disposal edges, and prompt repair of leaking leachate system and rinsate system pipes and equipment. Secondary measures included in the IPMP are as-needed biological controls, including the use of parasitic beetles and mites to control egg and larvae populations, and parasitic wasps to control fly pupae populations. When housekeeping and biological controls prove ineffective, or have provided limited effectiveness, chemicals (i.e., pesticides) may supplement the program.

The eASP composting facility would be covered by a 1-foot-deep layer of cured compost. The stability of the cured compost is not habitable for flies, insects, or other pests and acts as a vector barrier. The cured compost cover acts as a thermal blanket allowing the feedstocks to reach the temperature of 131 degrees Fahrenheit (°F) or higher for 3 days. These temperatures destroy pathogens and vector larvae. Additionally, the high heat of the pile deters burrowing rodents or nesting birds.

The project would be required to comply with 14 CCR 17868.3 temperature standards for pathogens reductions during composting. This requires all active compost to be covered with 6 to 12 inches of insulating material and be maintained at a temperature of 55 degrees Celsius (°C) (131°F) or higher for a pathogen reduction period of 3 days.

Mitigation Measures MM 4.8-7 (COM, BEF, LDF) and MM 4.8-8 (COM, BEF, LDF) would be implemented as part of the project to ensure potential impacts related to vectors and birds would be less than significant.

Bioenergy Facility

The proposed bioenergy facility would primarily utilize woody agricultural wastes as feedstock to produce 3-megawatt (MW) (net) electrical power for export to the grid through PG&E under the Bioenergy Market Adjusting Tariff (BioMAT) program (Category 2 – agricultural feedstocks). Buildings and surrounding areas would be maintained to discourage nesting of birds and proliferation of vectors or rodents. Drainage around the facility would reduce the potential for stormwater to pond on-site, reducing potential for vector propagation. The project proposes to construct a new on-site retention pond, which could lead to the breeding of disease vectors. The landfill site currently implements an IPMP approved by the Kern Mosquito and Vector Control District and KCEHSD. The IPMP includes measures to combat vector infestation by ensuring good drainage of biosolids areas, frequent flushing, cleanup and maintenance of biosolids disposal edges, and prompt repair of leaking leachate system and rinsate system pipes and equipment. Mitigation Measure MM 4.8-7 (COM, BEF, LDF) has been included to require the project proponent to update the IPMP to include the proposed bioenergy facility, including the retention ponds. Implementation of Mitigation Measures MM 4.8-7 (COM, BEF, LDF) and MM 4.8-8 (COM, BEF, LDF) would ensure potential impacts related to vectors and birds would be less than significant.

Mitigation Measures

MM 4.8-7 (COM, BEF, LDF) The project proponent shall update the landfill facility's Integrated Pest Management Plan for approval by the Kern Mosquito and Vector Control District and Kern County Environmental Health Services Division. The update shall include measures to combat vector infestation related to the new waste streams, composting facility, and bioenergy facility, including ancillary components, such as retention ponds. When housekeeping and biological controls prove ineffective, or have provided limited effectiveness, chemicals (i.e., pesticides) may supplement the program. When chemicals are used, special care shall be taken to select and apply chemicals that are compatible with existing biological controls (i.e., those that do not kill parasitic wasps). These chemicals will be used only as necessary and in compliance with Federal and State laws and regulations regarding pesticide storage, application, and disposal. Chemicals classified as restricted materials will be applied only under permits issued by the Kern County Agricultural Commissioner. Bulk pesticides will be applied only by a State-licensed Pesticide Applicator. Insecticides will be prepared and applied in conformance with practices recommended by the University of California Cooperative

Extension. The Integrated Pest Management Plan shall contain a record-keeping protocol, which shall be followed, and records kept on site and available upon request by the Kern County Vector and Mosquito Abatement District and Kern County Environmental Health Services Division.

MM 4.8-8 (COM, BEF, LDF) Should the Local Enforcement Agency indicate that vectors and/or birds are creating a nuisance even with implementation of the Integrated Pest Management Plan, additional control measures shall be implemented such as but not limited to:

- a. The services of a local pest control firm may be employed for vector eradication;
- b. The implementation of an integrated bird control strategy in consultation with the appropriate wildlife agencies; or
- c. Review of alternative daily cover to determine if a different method of daily cover, or the use of soil, would improve the control of vectors.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.8-7 (COM, BEF, LDF) and MM 4.8-8 (COM, BEF, LDF), impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Section 3.8, *Cumulative Effects Overview*, of this EIR discusses cumulative projects near the project (**Table 3-15, Cumulative Projects List**, in Chapter 3, *Project Description*, lists specific projects considered in the cumulative impact analysis). Impacts associated with hazards and hazardous materials are generally site-specific and have limited potential to substantially contribute to other hazards associated with other projects and activities on a regional or local basis. No hazardous materials sites are known to occur within a 6-mile radius of the project sites; however, it is possible for the cumulative planned or proposed projects within a 6-mile radius of the project sites and other similar projects, identified in Chapter 3, *Project Description*, of this EIR, to contain or release other hazardous substances associated with their operation and maintenance. It is anticipated that these other projects will also comply with all required rules and regulations concerning the use of hazardous substances. Impacts associated with hazardous materials are generally site-specific and each individual project is responsible for mitigating its specific risks through compliance with a Hazardous Materials Business Plan (if required) and existing regulations.

Impact 4.8-9: The project would contribute to cumulative hazards and hazardous materials impacts.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

Project-level hazards and hazardous materials impacts include the potential to expose people or structures to wildland fire, accidental release of hazardous materials, and generation of vectors. Project-level impacts would be reduced to less than significant with implementation of Mitigation Measures MM 4.15-3 (COM, BEF), MM 4.17-3 (COM, BEF), MM 4.8-1 (COM, BEF), MM 4.8-2 (COM, BEF), MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), and MM 4.8-6 (COM, BEF, LDF). In addition, the control of vectors (rodents, flies, and birds) is a requirement of State waste disposal regulations and is monitored by the LEA. Control of vectors is an ongoing operation through use of daily cover and rodent eradication when warranted. The project is required to operate in accordance with CCR Title 27. Implementation of Mitigation Measures MM 4.8-7 (COM, BEF, LDF) and MM 4.8-8 (COM, BEF, LDF), and continued compliance with CCR Title 27, would ensure that the project will not create hazardous accident conditions or become a breeding source for vectors.

The proposed project, in combination with the past, present, and future projects in the vicinity would not result in a level of impacts that would be cumulatively considerable. This is based on the proposed project's direct impacts being mitigated to less than significant with the incorporation of the mitigation measures described above, and on the fact that there is no evidence of significant unmitigated hazards or hazardous waste impacts in the project area, including such possible impacts from the existing mining operation surrounding the site. Therefore, cumulative impacts would be less than significant with mitigation.

Mitigation Measures

Implement Mitigation Measures MM 4.8-1 (COM, BEF), MM 4.8-2 (COM, BEF), MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), MM 4.8-6 (COM, BEF, LDF), MM 4.8-7 (COM, BEF, LDF), MM 4.8-8 (COM, BEF, LDF), MM 4.15-3 (COM, BEF) (see Section 4.15, *Transportation and Traffic*, for mitigation measure), and MM 4.17-3 (COM, BEF) (see Section 4.17, *Utilities and Service Systems*, for mitigation measure).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.8-1 (COM, BEF), MM 4.8-2 (COM, BEF), MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), MM 4.8-6 (COM, BEF, LDF), MM 4.8-7 (COM, BEF, LDF), MM 4.8-8 (COM, BEF, LDF), MM 4.15-3 (COM, BEF) (see Section 4.15, *Transportation and Traffic*, for mitigation measure), and MM 4.17-3 (COM, BEF) (see Section 4.17, *Utilities and Service Systems*, for mitigation measure), impacts would be less than significant.

Hydrology and Water Quality

4.9.1 Introduction

This section of the Environmental Impact Report (EIR) describes the environmental setting for hydrology and water quality, addresses potential impacts of the project on hydrology and water quality, describes the regulatory setting, and discusses mitigation measures that would reduce significant impacts, where applicable. Information and data used to prepare this section was obtained from studies prepared by the project proponent and from publicly available sources, including, but not limited to, the following:

- *H.M. Holloway Landfill Final EIR*;
- *Addendum to the Environmental Impact Report for the H.M. Holloway Landfill*;
- Annual Groundwater Monitoring Reports (Palmetto Engineering and Land Surveying, Inc. 2018); and
- *Reconnaissance Level Biological Evaluation for Lost Hills Composting and Waste to Energy Project* (McCormick Biological, Inc. 2020).

Publicly available sources include information from the Central Valley Regional Water Quality Control Board (RWQCB); groundwater basin data from Bulletin 118 – Update 2003, published by the California Department of Water Resources (DWR); groundwater well data from the DWR Water Data Library; climate data from the National Oceanographic and Atmospheric Administration (NOAA) Atlas 14 and National Climatic Data Center (NCDC); and flood hazard data from the Federal Emergency Management Agency (FEMA).

4.9.2 Environmental Setting

The project site is comprised of two adjacent sites, Sites A and B, which are separated by Holloway Road in northwestern Kern County. Site A is an existing class III non-hazardous industrial waste landfill facility located at 14045 Holloway Road on the west side of Holloway Road at the G P Road junction. Site B is an equipment staging and storage lot on the east side of Holloway Road, north of GP Road.

Regional Setting

The project site is in the Kern County subbasin, a portion of the larger San Joaquin Valley Basin (Basin No. 5-22), as designated by the DWR (DWR 2006). The Kern County subbasin (Basin No. 5-22.14) is defined by the Kern County line to the north, the granitic bedrock of the Sierra Nevada foothills and Tehachapi Mountains to the east and southeast, and the marine sediments of the Coast Ranges and San Emigdio Mountains to the west and southwest. The subbasin covers more than 3,000 square miles of the southern end of the valley; about half of this area overlays usable groundwater. Average precipitation values range from 5 inches at the

subbasin interior to 9 to 13 inches at the subbasin margins to the east, south, and west (DWR 2006).

Climate

The project area is characterized as having a semi-arid, dry steppe climate with hot, dry summers and occasional heat waves. Winters are typically cool and foggy as the semi-permanent high-pressure area of the north Pacific Ocean swings southward, permitting storm centers to move east through California. The project area sees the most rainfall in the month of January, at approximately 1 inch. The hottest month on average is July, with an average maximum temperature of 98.2 degrees Fahrenheit (°F) and the coldest month is January, with an average minimum temperature of 35.1°F. Average annual precipitation is 4.47 inches (Western Regional Climate Center [WRCC] 2016).

Local Hydrology

Surface Hydrology and Drainage

The project sites are located within the Tulare-Buena Vista Lakes Watershed in Kern County (Hydrologic Unit Code [HUC] 18030012), approximately 2.25 miles west of the California Aqueduct (**Figure 4.9-1, Watershed Map**). The Tulare-Buena Vista Lakes Watershed encompasses approximately 2,423,671 acres (9,808.26 square kilometers). The project sites are located within the Antelope Plain Subwatershed (HUC 1803001215), within the Tulare-Buena Vista Lakes Watershed, which encompasses approximately 149,827 acres (606.32 square kilometers).

Groundwater is naturally degraded and of poor quality throughout most of this area due to the presence of geologic sediments derived from marine environments, some of which contain saline connate water. These conditions make groundwater in the area unsuitable for practical beneficial use, without treatment or blending with better quality water (Aquilogic, Inc. 2019). Since groundwater quality within the project area is of very poor quality, the area must rely entirely on imported surface water supplies. The closest permanent source of surface water to the project sites is the California Aqueduct, which runs roughly parallel to the project sites, approximately 2.25 miles to the southeast, across the Lost Hills Anticline.

There are no perennial surface waters in the area due to the sparse rainfall in this arid region. One ephemeral drainage was identified in the western portion of the project site and appears to have been disturbed historically and channelized (McCormick Biological Inc 2020). Pits “E,” “F,” and “G” of the existing landfill lie within the swale formed by the intersection of the east-northeasterly sloping Antelope plain and the west southwestern slope of the Lost Hills Anticline. These pits are subject to 100-year sheet flow runoff predominately from the west-southwest. In particular, runoff from Bitterwater Creek can reach the project area in a 100-year storm. A portion of the adjacent mine area was inundated during the floods of 1968–1969. Sheet flow runoff due to super-saturation in the coastal range immediately to the west occurs once every 7 to 10 years. The mine area naturally drains to the south–southeast end of the swale, to the north along Holloway road, and to the northeast-east via geologic channels (through Section [S] 24, Township [T] 26S, Range [R] 20E and S30, T26S, R21E, Mount Diablo Base and Meridian [MDB&M]).

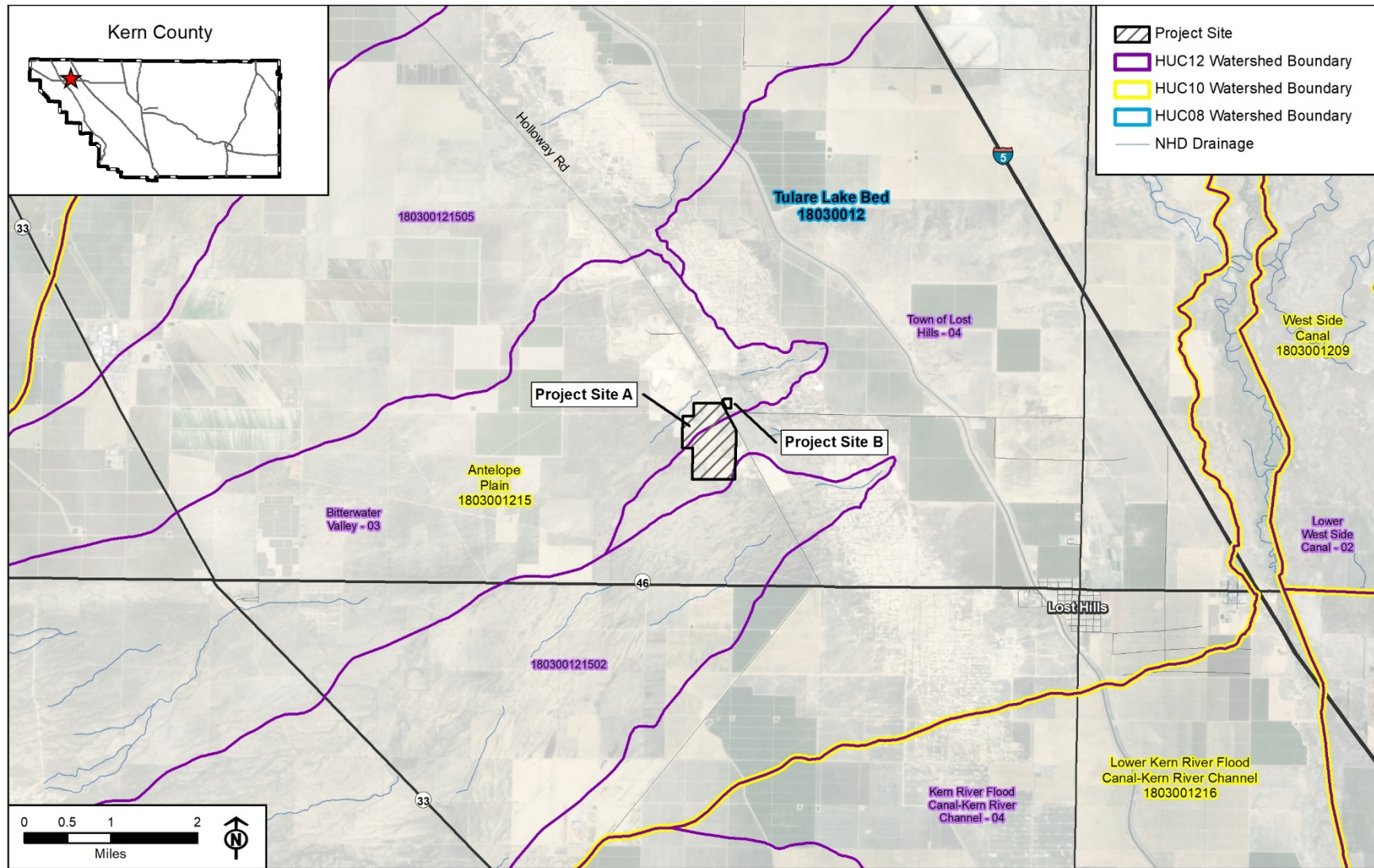


Figure 4.9-1
Watershed Map

Floodplains

FEMA delineates flood hazard areas on its Flood Insurance Rate Maps (FIRMs). According to the most recent FEMA FIRM for the area, shown on **Figure 4.9-2, FEMA Flood Zone Map**, the project sites are not located within an identified flood zone.

Within the past 40 years, seven major floods have occurred in Kern County, including the 1998 flood caused by the El Niño weather pattern. These floods have been investigated by the Kern County Water Agency (KCWA) and U.S. Army Corps of Engineers (USACE). Since 1971, the U.S. Department of Housing and Urban Development (HUD) has designated portions of the unincorporated areas of Kern County as a special flood hazard area. In compliance with the National Flood Insurance Program (NFIP), HUD has provided Kern County with a series of 83 Flood Hazard Boundary Maps. These maps delineate major areas of flooding throughout the county. The project sites are not located within a designated Flood Hazard Boundary.

Soil Types and Erosion

Surface sediments of Quaternary alluvial deposits are common within the portion of the San Joaquin Valley associated with the project sites, which consist of clay, silt, sand, and gravel derived predominately from the mountain complexes to the west, via the Antelope Floodplain. These entisols (recently formed or created soils), which lack soil horizon development, are generally found in active environments such as the distal end of a floodplain or mountain slope. The bulk of the soil is made up of unchanged parent material such as sand or rock fragments. This soil is of low fertility and susceptible to erosion unless well terraced for agriculture (BSK Associates 2019).

As identified on **Figure 4.7-1, Soils Map**, three soil types underlay the project sites. The soil types within Site A include 196 – Milham sandy loam, 0 to 2 percent slopes; 239 – Typic Gypsiorthids-Kimberlina association; and 217 – Pits; and Site B includes 217 – Pits (NRCS 2020). Site soils are further described in Section 4.6, *Geology and Soils*. Due to the low permeability of the underlying stratigraphy, the project sites do not serve as a groundwater recharge area.

The pits soil classification consists of soils that have been excavated. Slopes are flat to gently sloping and generally consist of gravel pits and quarries. Drainage classes and hydrological properties are not assigned for this soil type. The Milham sandy loam is dominated by nearly level to moderately sloping, well-drained fine sandy loam. The Typic Gypsiorthids-Kimberlina Association consists of gently to moderately sloping, well-drained clay loam, and fine sandy loam. All of these soil types are found on alluvial fans and alluvial plains (NRCS 2020).

As reported in the 2007 *H.M. Holloway Landfill Draft EIR*, extensive site characterization drilling, sampling, and testing of each approved pit generally encountered clay and clay-rich silt profiles to at least 125 feet below surface or ground level. Concentrated testing of the upper 60 feet below pit floors had depicted a general soil section, which consists of 25 to 60 consecutive feet of calcite-flocculated or cemented, very low permeable clays and clay-rich silts (1×10^{-7} to 1×10^{-10} centimeters per second [cm/sec] permeability); in general terms, the native soil section is very dense and very dry or desiccated.

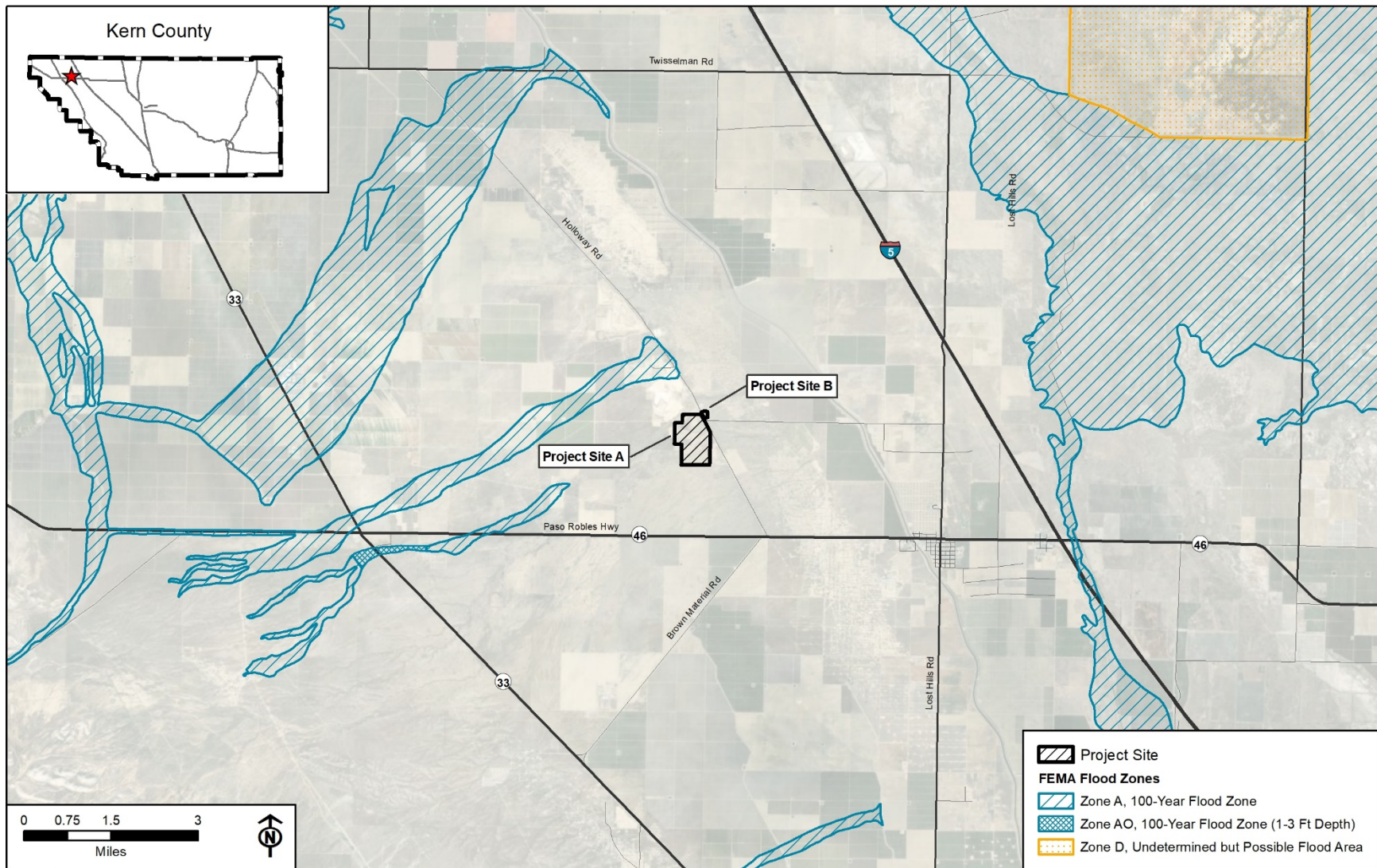


Figure 4.9-2
FEMA Flood Zone Map

Groundwater Resources

There are no groundwater recharge facilities near the project area. No groundwater is used by the existing landfill facility and none would be used by the proposed project. There are no groundwater production wells located in the vicinity of the project sites. There are 12 groundwater monitoring wells located within the 331-acre Site A boundary. There are currently three groundwater monitoring wells associated with Pit E, four associated with Pit F, and five associated with Pit G. The Pit FG Connection Area is covered by wells associated with both Pits F and G.

The project sites are within the San Joaquin Valley Groundwater Basin, which is one of 12 distinct groundwater basins of the Tulare Lake Hydrologic Region. The project sites are not located within any water district boundary.

The Kern County subbasin's water-bearing units consist, from youngest to oldest, of younger alluvium/floodplain deposits, older alluvium/stream deposits, the Tulare and Kern River formations, and the Olcese and Santa Margarita formations. The older alluvium/stream deposits and the underlying Tulare and Kern formations form the primary aquifers in the subbasin. Municipal/irrigation wells are up to 1,200 feet deep and yield up to 4,000 gallons per minute (GPM) (DWR 2006).

Natural recharge occurs through stream seepage along the eastern side of the subbasin and from the Kern River. Recharge also occurs from irrigation return flows and managed aquifer recharge programs (DWR 2006). DWR has implemented the California Statewide Groundwater Elevation Monitoring (CASGEM) program. Through CASGEM, California's basins and subbasins are prioritized as very low, low, medium, or high in terms of select criteria, such as reliance on groundwater, number of wells and population, irrigated acreage, and groundwater impacts. The Kern County subbasin was assigned a high CASGEM groundwater priority ranking.

The Kern County subbasin is identified by the Sustainable Groundwater Management Act (SGMA) as being in a state of critical overdraft and subject to SGMA regulations. The Kern Groundwater Authority (KGA) was formed on April 26, 2017, to manage the basin, including preparation and implementation of the required groundwater sustainability plan (Aquilologic, Inc. 2019).

Groundwater Quality

A general measure of groundwater quality is total dissolved solids (TDS). For drinking water purposes, water with a TDS concentration of 500 milligrams per liter (mg/L) or less is recommended, but can be usable up to 1,000 mg/L. Water quality in the western side of the basin contains primarily sodium sulfate and calcium-sodium sulfate. The shallow nature of the groundwater in the western portion of the basin results in elevated TDS concentrations. TDS concentrations in the Kern County subbasin average between 400 and 450 mg/L but can be up to 5,000 mg/L (DWR 2006).

Groundwater underlying the project sites is not potable, nor does it have any current or anticipated beneficial uses due to the availability of an alternate water supply and the high concentrations of TDS, selenium, manganese, chloride, sulfate, and chromium. This groundwater exceeds agricultural water quality goals for chloride, molybdenum, selenium, specific conductance, and TDS designated by the RWQCB in the Tulare Lake Basin Plan. All available data on groundwater quality indicates: (1) a very neutral pH, and (2) water of a very poor quality, with TDS levels generally in the range of 3,000 to 9,000 milligrams per kilogram (mg/kg) (parts per million [ppm]).

4.9.3 Regulatory Setting

Federal

Clean Water Act (CWA)

The Clean Water Act (CWA) (33 United States Code [USC] Section 1251 et seq.), formally 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 (WOTUS). The CWA establishes the basic structure for regulating discharges of pollutants into the WOTUS and has given the U.S. Environmental Protection Agency (USEPA) the authority to implement pollution control programs. 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. 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 RWQCBs. The project is within the jurisdiction of the Central Valley RWQCB.

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 WOTUS, must be certified by the State, as administered by the RWQCB. This certification ensures that the proposed activity does not violate Federal and/or State water quality standards.

Section 402, National Pollutant Discharge Elimination System (NPDES)

Section 402 of the CWA authorizes the State Water Resource 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), which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off site into receiving waters.

- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation.
- Perform inspections of all BMPs.

For the project, NPDES regulations are administered by the Central Valley RWQCB. Projects that disturb 1 acre or more, including the proposed project, are required to obtain NPDES coverage under the Construction General Permits.

Section 403, Water Quality Standards and Implementation Plans

Section 303(d) of the CWA (33 USC 1250 et seq., at 1313[d]) requires states to identify “impaired” water bodies as those which do not meet water quality standards. States are required to compile this information in a list and submit the list to the U.S. EPA for review and approval. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, states are required to prioritize waters and watersheds for future development of Total Maximum Daily Loads (TMDL) requirements. The SWRCB and RWQCBs have ongoing efforts to monitor and assess water quality, prepare the Section 303(d) list, and develop TMDL requirements.

National Flood Insurance Program (NFIP)

FEMA is responsible for managing the NFIP, which makes federally backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. The NFIP, established in 1968 under the National Flood Insurance Act, requires that participating communities adopt certain minimum floodplain management standards, including restrictions on new development in designated floodways, a requirement that new structures in the 100-year flood zone be elevated to or above the 100-year flood level (known as base flood elevation), and a requirement that subdivisions be designed to minimize exposure to flood hazards.

To facilitate identifying areas with flood potential, FEMA has developed FIRMs that can be used for planning purposes, including floodplain management, flood insurance, and enforcement of mandatory flood insurance purchase requirements. Kern County is a participating jurisdiction in the NFIP and, therefore, all new development must comply with the minimum requirements of the NFIP.

State

California Department of Water Resources (DWR)

DWR’s major responsibilities 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.

Regional Water Quality Control Board (RWQCB)

Responsibilities for water quality control are defined under 23 CCR, which is overseen primarily by RWQCBs. The RWQCBs are responsible for protecting beneficial uses of water. Beneficial uses, which can be actual or potential, include municipal water supply, recreation, industrial water supply, and agricultural water supply. The RWQCBs have authority to supervise hazardous waste cleanup at sites referred by local agencies and in cases where water quality is affected or threatened.

California Water Code Section 13260 requires “any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements).” Under the State’s Porter-Cologne Water Quality Control Act (Porter-Cologne Act) definition, the term waters of the State is defined as “any surface water or groundwater, including saline waters, within the boundaries of the state.” Although all WOTUS that are within the borders of California are also waters of the State, the converse is not true (i.e., in California, WOTUS represent a subset of waters of the State). Thus, California retains authority to regulate discharges of waste into any waters of the State, regardless of whether the USACE has concurrent jurisdiction under Section 404.

The RWQCB is responsible for enforcement of the provisions of the anti-degradation objectives of SWRCB Resolution No 68-16 requiring that waters of the State be maintained “consistent with the maximum benefit to the people of the State.” It is the intent of these regulatory procedures that groundwater degradation be prevented, not delayed, by the requirements and enforcement of project-specific Waste Discharge Orders.

Water Discharge Requirements

State regulations addressing the treatment, storage, processing, or disposal of waste are included in 27 CCR. The SWRCB adopted Order No. WQ 2015-0121-DWQ in August 2015, which establishes general waste discharge requirements for composting operations. The order was amended April 7, 2020, with Order No. WQ 2020-0012-DWQ. This general order applies to most composting facilities that receive and process organic material to create compost. The order includes monitoring and reporting requirements, and includes standards related to permeability, drainage, and leachate collection/containment.

The Central Valley RWQCB has issued Waste Discharge Requirements (WDRs) to the Lost Hills Environmental Industrial Landfill; the latest version is Order No. R5-2010-0123, adopted in December 2010. Groundwater monitoring is conducted to evaluate the performance of facility design and operation and to identify threats to human health and the environment. Groundwater monitoring reports are sent semi-annually to the RWQCB, fulfilling the WDR requirements.

Sustainable Groundwater Management Act (SGMA)

The Sustainable Groundwater Management Act (SGMA) was enacted by the State in 2014 and requires that by January 31, 2020, “basins that are subject to critical conditions of overdraft shall be managed under a groundwater sustainability plan.” The act provides for the establishment of groundwater sustainability agencies (GSAs) that are meant to develop groundwater sustainability plans (GSPs) to monitor and regulate the interests of all beneficial uses and users of groundwater within each plan’s management area. The Kern County Groundwater Subbasin is considered to be in a state of critical overdraft by DWR. As such, groundwater use in the subbasin must be regulated by one or more GSPs by the end of January 2020. The SGMA requires that a GSP achieve “sustainable groundwater management” and avoid “undesirable results,” defined under California Water Code Section 10721(w) as meaning: chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply; significant and unreasonable reduction of groundwater storage; significant and unreasonable seawater intrusion; significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies; significant and unreasonable land subsidence that substantially interferes with surface land uses; and/or surface water depletions that have significant and unreasonable adverse impacts on beneficial uses of surface water. The Lamont Public Utility District (LPUD) is currently in the process of becoming a member of a GSA and intends to fully comply with the SGMA.

Senate Bill 610

SB 610 was passed on January 1, 2002, amending California law to require detailed analysis of water supply availability for large development projects. An SB 610 Water Supply Assessment (WSA) must be prepared if the following three conditions are met:

1. the project is subject to the California Environmental Quality Act (CEQA) under California Water Code Section 10910;
2. the project meets criteria to be defined as a “Project” under California Water Code Section 10912; and
3. the applicable water agency’s current Urban Water Management Plan does not account for the water supply demand associated with the project.

A project would meet the definition of “Project” per California Water Code Section 10912(a) if it is:

- a proposed residential development of more than 500 dwelling units;
- a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;

- a proposed hotel or motel, or both, having more than 500 rooms;
- a proposed industrial, manufacturing, or processing plant or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- a mixed-use project that includes one or more of the projects specified in this subdivision; or
- a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act (California Water Code Sections 13000 et seq.), passed in 1969, requires protection of water quality by appropriate designing, sizing, and construction of erosion and sediment controls. The Porter-Cologne Act established the SWRCB and divided California into nine regions, each overseen by 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 CWA Sections 401 through 402 and 303(d) to the SWRCB and the nine RWQCBs.

The Porter-Cologne Act requires the development and periodic review of water quality control plans (basin plans) that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters, provide the technical basis for determining WDRs, identify enforcement actions, and evaluate clean water grant proposals. The basin plans are updated every 3 years. Compliance with basin plans is primarily achieved through implementation of the NPDES, which regulates waste discharges as discussed above.

The Porter-Cologne 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 Central Valley Region Water Quality Control Plan (Basin Plan) (RWQCB 2018).

California Fish and Game Code Streambed Alteration Agreement

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 CDFW before beginning any activity that will:

- Substantially divert or obstruct the natural flow of any river, stream, or lake;
- Substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

If it is determined that any project-related actions would have the potential to necessitate a Streambed Alteration Agreement, then 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 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 must comply with CEQA before it may issue a final Streambed Alteration Agreement; therefore, CDFW must wait for the Lead Agency to fully comply with CEQA before it may sign a draft Streambed Alteration Agreement, thereby making it final.

California Water Code Section 13260

Under the Porter-Cologne Act, California Water Code Section 13260 requires that any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the State, other than into a community sewer system, must submit a report of waste discharge to the applicable RWQCB. “Waste” is defined in the Basin Plan to include any waste or deleterious material including, but not limited to, waste earthen materials (such as soil, silt, clay, rock, or other organic or mineral material) and any other waste as defined in the California Water Code, Section 13050(d). Any actions related to the project that would be applicable to California Water Code Section 13260 would be reported to the Central Valley RWQCB.

NPDES General Construction Permit

The NPDES was established per 1972 amendments to the Federal Water Pollution Control Act, in order to control discharges of pollutants from point sources (Section 402). As described above, under “Federal,” 1987 amendments to the CWA created a new section of the act devoted to stormwater permitting (Section 402[p]), with individual States designated for administration and enforcement of the provisions of the CWA and the NPDES permit program. The SWRCB issues both general permits and individual permits under this program for construction activities and for industrial activities.

Projects disturbing more than one acre of land during construction are required to file a Notice of Intent (NOI) with the SWRCB to be covered under the State NPDES Construction General Permit for discharges of stormwater associated with construction activity. The project proponent must control measures that are consistent with the State Construction General Permit. A Construction SWPPP must be developed and implemented for each site covered by the Construction General Permit. A Construction SWPPP describes BMPs the discharger will use to protect stormwater runoff and reduce potential impacts to surface water quality through

the construction period. The Construction SWPPP must contain the following: a visual monitoring program; a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment (SWRCB 2009).

Industrial Storm Water General Permit

The State Industrial Storm Water General Permit Order 97-03-DWQ (Industrial General Permit) is an NPDES permit that regulates discharges associated with 10 broad categories of industrial activities. A new Industrial General Permit was adopted by the State on April 1, 2014, and went into effect on July 1, 2015. Facilities that discharge stormwater associated with industrial activity requiring a General Permit are listed by category in 40 Code of Federal Regulations (CFR) Section 122.26(b)(14.) The facilities can be publicly or privately owned.

The project proponent must control measures that are consistent with the State General Permit. A SWPPP must be developed and implemented for each site covered by the General Permit. A SWPPP should include BMPs designed to reduce potential impacts to surface water quality through the construction period.

The Industrial General Permit requires implementation of management measures that will achieve the performance standard of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). The Industrial General Permit also requires the development of an Industrial SWPPP and a monitoring plan. Through the Industrial SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce stormwater pollution are described. The Industrial SWPPP must identify, and discharges must implement, a set of minimum BMPs. Implementation of the minimum BMPs, in combination with any advanced BMPs necessary to reduce or prevent pollutants in industrial stormwater discharges, serve as the basis for compliance with technology-based effluent limitations and water quality based receiving water limitations.

The project would be required to comply with the General Industrial Permit. If the project is determined to not discharge to surface waters at any time, then the facility operator could seek from the Central Valley RWQCB an exemption from stormwater permitting requirements.

Groundwater Management Act

The Groundwater Management Act of 1992, commonly referred to as AB 3030, is designed to provide local public agencies with increased management authority over groundwater resources. Groundwater is a valuable natural resource within California and AB 3030 ensures safe production and quality by encouraging local agencies to work cooperatively to manage groundwater resources within their jurisdictions (California Water Code Section 10750).

Local

Kern County General Plan

The policies, goals, and implementation measures in the *Kern County General Plan* for hydrology and water resources applicable to the proposed project are provided below. Policies, goals, and implementation measures in the General Plan that are not specific to development are not listed below. However, all policies, goals, and implementation measures in the *Kern County General Plan* are incorporated by reference.

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 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. The ordinances will establish conditions, criteria and standards for the approval of development in hazard areas.

Policy 3: Zoning and other land use controls will be used to regulate and, in some instances, to prohibit development in hazardous areas.

Policy 6: Regardless of percentage of slope, development on hillsides will be sited in the least obtrusive fashion, thereby minimizing the extent of topographic alteration required and reducing soil erosion while maintaining soil stability.

Policy 7: Ensure effective slope stability, wastewater drainage, and sewage treatments in areas with steep slopes are adequate for development.

Policy 8: Encourage the preservation of the floodplain's flow conveyance capacity, especially in floodways, to be open space/passive recreation areas throughout the County.

Policy 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.

Policy 10: The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General

Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.

Policy 11: Protect and maintain watershed integrity within Kern County.

Implementation Measures

Implementation Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.

Implementation Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.

Implementation 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.

Implementation 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.

Implementation Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.9 Resource

Goals

Goal 3: Ensure the development of resource areas minimize effects on neighboring resource lands.

Policies

Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.

1.10 General Provisions

1.10.6 Surface Water and Groundwater

Policies

Policy 34: Ensure that water quality standards are met for existing users and future development.

Policy 39: Encourage the development of the County's ground water supply to sustain and ensure water quality and quantity for existing users, planned growth, and maintenance of the natural environment.

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 practicable.

Policy 46: In accordance with the Kern County Development Standards, tank truck hauling of domestic water for land developments or lots within new land developments is not permitted.

Implementation Measures

Implementation Measure U: The Kern County Environmental Health Services Department will develop guidelines for the protection of groundwater quality which will include comprehensive well construction standards and the promotion of ground water protection for identified degraded watersheds.

Implementation Measure W: Applications for General or Specific Plan Amendments will include sufficient data for review to facilitate desirable new development proposals consistent with General Plan policies, using the following criteria and guidelines:

- i. The provision of adequate water, sewer, and other public services to be used.
- ii. The provision of adequate on-site nonpublic water supply and sewage disposal if no public systems are available or used.

Implementation Measure X: Encourage effective ground water resource management for the long-term benefit of the County through the following:

- i. Promote ground water recharge activities in various zone districts.
- ii. Support for the development of Urban Water Management Plans and promote Department of Water Resources grant funding for all water providers.
- iii. Support the development of Ground Water Management Plans.
- iv. Support the development of future sources of additional surface water and ground water, including conjunctive use, recycled water, conservation, additional storage of surface water and ground water and desalination.

Implementation 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.
- iii. Encouraging the retrofitting of existing development with water conserving devices.

Appendix E, Solid Waste Disposal Facilities Guidelines (Map Code 3.4)

“Solid waste disposal facility” is defined as an existing or planned public, semi-public, or private solid non-hazardous waste disposal facility.

Pursuant to Public Resources Code (PRC) 43000 et seq., certain findings are required for designating sites for solid waste disposal facilities. Findings must show that an existing organic or municipal solid waste disposal facility, a new facility, or future expansion of an existing facility is consistent with the *Kern County and Incorporated Cities Integrated Waste Management Plan* and the *Kern County General Plan*, and that adjacent authorized land uses are compatible with such a facility. All solid waste disposal facilities are governed by the *Kern County General Plan*.

Appendix E of the *Kern County General Plan* is intended to provide procedural guidance and criteria to ensure General Plan consistency and land use compatibility for the health and safety of the residents in Kern County, and, additionally, to provide for adequate designation of solid waste disposal facilities to serve the residents of Kern County and the various incorporated Cities.

All proposed and existing organic or municipal solid waste disposal facilities found to be inconsistent with the General Plan map provisions, shall require an amendment to the General

Plan or applicable Specific Plan to designate the site as a Solid Waste Disposal Facility (Map Code 3.4). Furthermore, the following findings shall be made:

1. That the County of Kern has adopted a General Plan which complies with the requirements of Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7;
2. That the proposed establishment or expansion of a site for a solid waste disposal facility is consistent with the Land Use, Open Space and Conservation Element Map Code provisions or with applicable special treatment area provisions, and is to be designated "Solid Waste Disposal Facility" (Map Code 3.4);
3. That adjacent Land Use, Open Space and Conservation Map Code provisions, or applicable special treatment area provisions, are deemed compatible with the proposed establishment or expansion of the solid waste disposal facility;
4. That a conditional use permit will be required, authorizing the establishment or expansion of the solid waste disposal facility, including site improvements;
5. That the project has been evaluated pursuant to the requirements of the California Environmental Quality Act, Public Resources Code Section 21000, et seq.

Decision Procedure for Siting Solid Waste Disposal Facilities

1. Solid waste disposal facilities shall be designated on applicable General Plan maps or Specific Plan maps as "Solid Waste Disposal Facility" (Map Code 3.4).
 - A. When planning new organic and municipal solid waste disposal facilities the following siting criteria shall apply. All sites for organic and municipal solid waste disposal facilities shall exclude:
 - 1) Existing or planned areas of urban density (residential and commercial) as defined by this general plan.
 - 2) Public facilities which are deemed not compatible with organic and municipal solid waste disposal facilities (Map Codes 3.1, 3.2, and sensitive existing land use within 3.3).
 - 3) Significant historic, or archaeological areas as defined by CEQA Guidelines Section 15064.5.
 - 4) 100-year floodplain (Map Code 2.5).
 - 5) High groundwater defined for facilities as:
Unlined Facilities: 100 feet below proposed depth of refuse.
Lined Facilities: 25 feet below proposed depth of refuse.
 - 6) Class VII soils (rock outcrops).

- 7) Nonqualified soils based on Natural Resource Conservation Service criteria (soils presently not rated and not included in Table 9, page 149, Soil Survey for Southeastern Part of Kern County, 1981 edition).
- 8) Classes I and II agricultural soils with surface water delivery systems.
- 9) Classes I, II, and III soils.
- 10) Agricultural Preserve areas having a minimum productivity of \$200 an acre per year.
- 11) Gas and oil producing areas that cannot be mitigated or accommodated.
- 12) Areas containing rare or endangered plant or animal life that cannot be mitigated or accommodated.

Kern County Ordinance

Title 17 – Buildings and Construction

Chapter 17.28 – Kern County Grading Code

The purpose of the Kern County Grading Code is to safeguard life, limb, property, and the public welfare by regulating grading on private property. All applicable requirements of the Kern County Grading Code will be applied during implementation of the project. All required grading permit(s) shall be obtained prior to commencement of construction activities. Sections of the Grading Code that are particularly relevant to hydrology and water quality 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 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.
- B. Other Devices. Where necessary, check dams, cribbing, riprap or other devices or methods shall be employed to control erosion and provide safety.
- C. Temporary Devices. Temporary drainage and erosion control shall be provided as needed at the end of each work day during grading operations, such that existing drainage channels would not be blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust

nuisance. Deposition of rocks, earth materials or debris onto adjacent property, public roads or drainage channels shall not be allowed.

Section 17.28.170 – Grading Inspection

- A. General. All grading operations for which a permit is required shall be subject to inspection by the building official. Professional inspection of grading operations and testing shall be provided by the civil engineer, soils engineer and the engineering geologist retained to provide such services in accordance with Subsection 17.28.170(E) for engineered grading and as required by the building official for regular grading.
- B. Civil Engineer. The civil engineer shall provide professional inspection within such engineer's area of technical specialty, which shall consist of observation and review as to the establishment of line, grade and surface drainage of the development area. If revised plans are required during the course of the work they shall be prepared by the civil engineer.
- C. Soils Engineer. The soils engineer shall provide professional inspection within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The soils engineer shall provide sufficient observation during the preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. Revised recommendations relating to conditions differing from the approved soils engineering and engineering geology reports shall be submitted to the permittee, the building official and the civil engineer.
- D. Engineering Geologist. The engineering geologist shall provide professional inspection within such engineer's area of technical specialty, which shall include professional inspection of the bedrock excavation to determine if conditions encountered are in conformance with the approved report. Revised recommendations relating to conditions differing from the approved engineering geology report shall be submitted to the soils engineer.
- E. Permittee. The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this Code, and the permittee shall engage consultants, if required, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the consultants, the contractor and the building official. In the event of changed conditions, the permittee shall be responsible for informing the building official of such change and shall provide revised plans for approval.

- F. Building Official. The building official may inspect the project at the various stages of the work requiring approval to determine that adequate control is being exercised by the professional consultants.
- G. Notification of Noncompliance. If, in the course of fulfilling their responsibility under this chapter, the civil engineer, the soils engineer, or the engineering geologist finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately in writing to the permittee and to the building official. Recommendations for corrective measures, if necessary, shall also be submitted.
- H. Transfer of Responsibility. If the civil engineer, the soils engineer, or the engineering geologist of record is changed during the course of the work, the work shall be stopped until:
 - 1. The civil engineer, soils engineer, or engineering geologist, has notified the building official in writing that they will no longer be responsible for the work and that a qualified replacement has been found who will assume responsibility.
 - 2. The replacement civil engineer, soils engineer, or engineering geologist notifies the building official in writing that they have agreed to accept responsibility for the work.

Kern County Floodplain Management Ordinance (17.48)

Any construction that takes place within areas of special flood hazards, areas of flood-related erosion hazards, and areas of mudslide (i.e., mudflow) hazards within the jurisdiction of unincorporated Kern County will comply with the requirements and construction design specifications of this ordinance. Any required development permits will be obtained prior to commencement of construction activities. Sections 17.48.250 through 17.48.350 of the ordinance 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 Kern 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 1 acre or more 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:

1. All stormwater is retained on-site and no stormwater runoff, sediment, or pollutants from on-site construction activity can discharge directly or indirectly off-site or to a river, lake, stream, municipal storm drain, or off-site drainage facilities.
2. All stormwater runoff is not retained on-site, but does not discharge to a WOTUS (i.e., drains to a terminal drainage facility). Therefore, a SWPPP has been developed and BMPs must be implemented.
3. All stormwater runoff is not retained on-site, and the discharge is to a WOTUS. Therefore, a Notice of Intent (NOI) must be filed with the SWRCB prior to issuance of the building permit. Also, a SWPPP has been developed and BMPs must be implemented.
4. Construction activity is between 1 and 5 acres and an Erosivity Waiver was granted by the SWRCB. BMPs must be implemented.

Zoning – Title 19 of the Ordinance Code of Kern County

Chapter 19.70 Floodplain Combining District

Section 19.70.040 – Prohibited Uses. All other uses not permitted by Sections 19.70.020 and 19.70.030 of this chapter or accessory thereto under Section 19.08.110 are prohibited in an FP District, including:

- A. All uses prohibited by the base district with which the FP District is combined.
- 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 of this chapter.
- C. Dumping, stockpiling, or storage of floatable substances or other materials which, in the opinion of the Kern County Engineering,

Surveying and Permit Services Department, will add to the debris loads of the stream or watercourse, unless protected by flood control devices approved by the Kern County Engineering, Surveying and Permit Services Department and constructed in accordance with Section 19.70.130 of this chapter.

- D. Storage of junk or salvage operations.
- E. Oil storage tanks or processing equipment, unless flood proofed or sufficiently elevated above the Base Flood Elevation, as determined by the Kern County Engineering, Surveying and Permit Services Department.
- F. Individual sewage disposal systems (e.g., septic tank systems), unless protected by flood control devices approved by the Kern County Engineering, Surveying and Permit Services Department and constructed in accordance with the requirements of the Kern County Public Health Services Department so as to minimize infiltration of floodwaters into the systems and discharges from the systems into the floodwaters.
- G. Sources of water supply (e.g., wells, springs) unless protected by flood control devices approved by the Kern County Engineering, Surveying and Permit Services Department and constructed in accordance with the requirements of the Kern County Public Health Services Department so as to minimize infiltration of floodwaters.
- H. Any use which endangers the temporary safeguards erected for flood protection.

4.9.4 Impacts and Mitigation Measures

This section evaluates the impacts to hydrology and water quality that may occur during construction and operation of the project. It describes the potential hydrological resources located on and adjacent to the project sites 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, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

This section presents the CEQA impact analysis related to potential hydrology and water quality impacts associated with the project. This analysis compares the baseline conditions for the affected environment relevant to hydrology and water quality, as presented above in Section

4.9.2, *Environmental Setting*, with conditions that would occur due to construction and operational activities as part of the project. Because many of the activities that would occur as part of the project are similar, if not identical, to many of the current activities occurring at the site under existing (baseline) conditions, this analysis appropriately focuses on the differences between the existing operations and operations that would occur as a result of the project. This comparison of baseline conditions to conditions with the project is evaluated in consideration of several significance criteria, as defined below. The analysis utilizes information from the sources described in Section 4.9.1, *Introduction*.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identifies 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 on hydrology and water quality. The Kern County Environmental Checklist states that a project would normally be considered to have a significant impact related to hydrology and water quality if it would:

- a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water 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 a substantial erosion or siltation on- or off-site
 - ii. substantially increase the rate of amount of surface runoff in a manner which would result in flooding on-or offsite;
 - iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
 - iv. impede or redirect flood flows;
- d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

The Lead Agency determined in the Initial Study/Notice of Preparation (IS/NOP) that the following environmental issue areas would result in no impacts or less-than-significant

impacts. Therefore, no further analysis is required in this EIR based on the scoping review. Please refer to Appendix A of this EIR for a copy of the IS/NOP and additional information regarding these issue areas.

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or FIRM or other flood hazard delineation map.
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Project Impacts and Mitigation Measures

Impact 4.9-1: The project would violate water quality standards or waste discharge requirements.

eASP Composting Facility and Landfill Facility

The existing landfill operations are conducted in compliance with the requirements of CCR Titles 14 and 27. Current landfill operations comply with existing WDRs (Order No. R5-2010-0123), which were adopted and enforced by the Central Valley RWQCB. Requirements of the WDRs include implementing BMPs and facility design features to minimize the impacts to groundwater degradation. For the proposed composting operation, activities would be required to comply with the General Waste Discharge Requirements for Composting Operations (Order No. 2020-0012-DWQ).

Site A has been used as a landfill facility since 1997, and prior to that, it operated as the H.M. Holloway Gypsum Mine. The landfill is a Class III non-hazardous industrial waste landfill with a waste containment system made up of naturally occurring geologic materials that have been conditioned to prevent the migration of waste constituents to groundwater and to convey leachate to the leachate collection sump; a leachate collection and removal system drainage layer consisting of either appropriate selection geologic materials and a geonet/geocushion; and an operations layer designed to protect the leachate collection and removal system.

Per WDR Order R5-2010-0123, it has been demonstrated that the landfill's site characteristics alone, without a liner, meet the performance goal contained in 27 CCR 20310 and will not impair the beneficial uses of the surface water or groundwater beneath or adjacent to the landfill in accordance with 27 CCR 20260(b)(1).

The proposed addition of new organic waste streams to the landfill would be required to comply with WDR Order R5-2010-0123; continued compliance with WDR Order R5-2010-0123 would ensure the waste stream expansion for the landfill would not violate water quality standards or waste discharge requirements.

Dependent upon agency direction, the project proponent may apply for an individual WDR for the proposed composting operation or incorporate composting operations into the facility's existing WDR. Composting has a potential to impact groundwater quality; however, the project would incorporate design, construction, and operation requirements to limit impacts to surface and ground water quality.

Based on the geotechnical report prepared for Site A, the groundwater depth is approximately 150 to 300 feet below ground surface (ES Engineering Services 2017). Currently, there is an extensive environmental monitoring system for the landfill to monitor groundwater quality and control landfill gas associated with landfill operations. There are currently three groundwater monitoring wells associated with Pit E, four associated with Pit F, and five associated with Pit G. The F & G Connection Area is covered by wells associated with both Pits F and G. All 12 groundwater monitoring wells are within the 331-acre permitted facility boundary. The landfill's passive gas vent system was upgraded in March 2016 to an active gas collection system, which includes a system to treat, collect, and transport the gas to an off-site processing facility, a solar-powered flare system, and a 55-gallon activated carbon filter canister as a backup for the solar-powered flare system. This upgrade allows the landfill to recover landfill gas from the site for a beneficial use. The off-site processing facility converts the methane into beneficial products, such as bioplastics, through an alternative carbon conversion process.

Disturbance of soil during construction could result in soil erosion and subsequent water quality degradation through increased turbidity and sediment transport through runoff. Per Mitigation Measure MM 4.6-7 (COM, BEF) (see Section 4.6, *Geology and Soils*, for mitigation measure), the project proponent would be required to prepare a construction SWPPP for ground-disturbing activities during construction and would also be required to maintain an appropriate Industrial SWPPP throughout the duration of the project. Preparation of the SWPPP is required by Federal and State law, and these documents and compliance with the stormwater management and reporting requirements to be specified therein are, therefore, considered part of the project. Compliance with the SWPPP requirements and implementation of appropriate BMPs would prevent the discharge of sediment and polluted surface water during construction activities associated with the project. Additionally, per Mitigation Measure MM 4.8-3 (COM, BEF) (see Section 4.8, *Hazards and Hazardous Materials*, for mitigation measure), the project proponent would be required to obtain a Spill Prevention Control and Countermeasures Response Plan from the California Department of Water Resources and the Kern County Public Health Services Department/ Environmental Health Services Division. Additionally, the project is subject to all applicable Federal, State, and County water quality regulations. This includes, but is not limited to, required adherence to the CWA, NPDES requirements, the National Flood Insurance Act, DWR requirements, the California Fish and Game Code, the California Water Code, the *Kern County General Plan*, and the Kern County Zoning Ordinance.

Development of the project would result in a significant impact to hydrology and water quality if associated construction or operation activities would create conditions that would result in the violation of any water quality or waste discharge standards. Such violations could occur through the creation of erosion, sedimentation, and/or polluted runoff; through the accidental release of potentially hazardous materials required during operational activities; or through the discharge of contaminated groundwater. With implementation of Mitigation Measures MM

4.6-7 (COM, BEF) and MM 4.8-3 (COM, BEF), and compliance with applicable regulations, potential water quality impacts would be reduced to a less-than-significant level. Therefore, this impact is considered less than significant with mitigation.

Bioenergy Facility

Due to the design of the bioenergy facility, including the utilization of air coolers, there would be no wastewater generated from the operation of the bioenergy plant itself. Stormwater runoff from the process unit area of the bioenergy facility, as well as the safety shower, hose stations, and firewater pump runoff from these areas, is proposed to be collected in an on-site wastewater sump and stored in mobile water tanks. After testing, the water may be returned to the water tank for reuse, with or without filtration or treatment, or disposed of or utilized off-site. Stormwater runoff from the process unit curbed areas, as well as the safety shower, hose stations, and firewater pump runoff, would be collected in an on-site retention pond. After testing, the water would either be returned to the water tank for use, pumped out and disposed of, or allowed to evaporate in-situ.

With implementation of Mitigation Measures MM 4.6-7 (COM, BEF) and MM 4.8-3 (COM, BEF), appropriate BMPs and compliance with applicable regulations, potential water quality impacts would be reduced to a less-than-significant level. Therefore, this impact is considered less than significant with mitigation.

Mitigation Measures

Implement Mitigation Measures MM 4.6-7 (COM, BEF) (see Section 4.6, *Geology and Soils*, for mitigation measure) and MM 4.8-3 (COM, BEF) (see Section 4.8, *Hazards and Hazardous Materials*, for mitigation measure).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.6-7 (COM, BEF) and MM 4.8-3 (COM, BEF), impacts would be less than significant.

Impact 4.9-2: 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.

eASP Composting Facility and Landfill Facility

The existing landfill is authorized to accept up to 2,000 tons per day of materials, with a maximum of 12,000 tons per week. The proposed addition of composting feedstock would not increase the authorized daily or weekly disposal limits, and water use for the landfill would remain substantially unchanged.

The proposed composting facility would primarily use water for fugitive dust control and soil compaction. As discussed in Impact 4.17-2 in Section 4.17, *Utilities and Service Systems*,

existing landfill operations are served by surface water imports from the Berrenda Mesa Water District (BMWD) through a 250-acre-foot-per-year (AFY) agreement with the Blackwell Land Company, Inc. The proposed composting facility would require an estimated annual water demand of up to 244 acre-feet (AF) at full buildout. Water for the composting facility would be provided by the Buena Vista Water Storage District (BVWSD) via the BMWD, which has entered a 20-year, 250-AFY agreement with the project proponent.

BVWSD has recently evaluated its water system supply and entitlements as part of its compliance with the SGMA, which requires that water agencies prepare a GSP. The purpose of the GSP is to analyze existing water supplies and groundwater levels and to implement a plan to ensure that these remain in balance and are sustainable over a long period of time. It should be noted that the project location and water supplier are not located in area that is subject to an Urban Water Management Plan (UWMP). The *Buena Vista GSA Final Groundwater Sustainability Plan: Kern County Groundwater Subbasin* was prepared by GEI Consultants in January 2020.

Chapter 6 “Water Supply Accounting – Water Budget” of the Buena Vista GSA GSP presents data related to the BVWSD’s current supplies and outlook for both supply and demand. It is anticipated that the BVWSD’s entitlement to Kern River through the year 2070 is expected to average 147,000 AFY. The BVWSD’s entitlement to California State Water Project (SWP) water is expected to be 10,700 AFY by the year 2030 and 9,642 AFY by the year 2070. These projected totals account for reductions in future supply due to climate change. The GSP has calculated the projected water demand and increased deliveries over this same period to develop a water budget. Despite the overall surplus diminishing, it is projected that BVWSD will still have a net positive balance of water supply over the next 50 years. As with the landfill operation, this water supply generally comes from the SWP and is not typically sourced from groundwater. Additionally, the composting facility would be developed on a portion of the existing landfill that has reached capacity, in an area that is not a groundwater recharge area; therefore, the composting facility would not substantially interfere with groundwater recharge and impacts would be less than significant.

Bioenergy Facility

The proposed bioenergy facility would utilize air-blown downdraft gasifier technology, which would not require steam injection into the gasifiers. It would utilize an Organic Rankine Cycle (ORC) to generate power, which would not require the water supply and treatment systems required for more conventional steam cycle power plants. It would also employ dry cooling for the power cycle and process cooling systems, which would eliminate the need for water makeup to a conventional evaporative cooling water system. These design features would significantly reduce the water demand for the proposed bioenergy facility. In addition, the bioenergy facility design would allow for recovery and reuse of suitable quality (clean) wastewater, after testing, filtration, and minimal treatment to the raw water tank, to further reduce the water demand for the proposed bioenergy facility.

The bioenergy facility would utilize water supplied through the same agreement with BVWSD to provide 250 AFY of water. With the composting facility potentially needing up to 244 AFY, there is still an additional 6 AFY available to meet the estimated demand of 3 AFY for the

proposed bioenergy facility. At full buildout, the composting and bioenergy facilities are expected to require approximately 222,000 gallons of water per day. The water would be delivered to the site in the same manner as described above; therefore, the bioenergy facility would not substantially deplete groundwater supplies or interfere with groundwater recharge and impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.9-3: The project would not substantially alter the existing drainage pattern of the site or area in a manner which would:

- i. result in a substantial erosion or siltation on- or off-site;**
- ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;**
- iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or**
- iv. impede or redirect flood flows.**

eASP Composting Facility and Landfill Facility

The addition of new waste streams to the landfill would not alter the existing drainage pattern of the site or generate an increase in stormwater runoff as no physical modifications to the existing landfill operation would occur as a result of the proposed CUP modifications and the daily disposal rate and truck rate would remain the same. The landfill is currently designed and constructed to comply with CCR Title 27 drainage control requirements.

Construction and operation of the proposed composting facility would be in compliance with CCR Titles 14 and 27 and the RWQCB WDRs to minimize drainage impacts and control erosion and surface runoff. The composting facility site is almost entirely disturbed due to previous landfill activities, and no surface waters are located on or near the site. Construction of the composting facility would require grading, excavation, and other ground disturbance. These activities have the potential to cause increased runoff, erosion, and sedimentation that would not otherwise occur at the project site. As previously discussed, the soil types present within Site A are susceptible to erosion, which could result in potentially significant impacts.

The project must also comply with the requirements of the State's Construction General Permit under the NPDES program, which includes preparation of a SWPPP. Through prescribing BMPs, the objective of the SWPPP is to reduce or eliminate sediment or other pollutants from

entering stormwater runoff and to prevent erosion and sedimentation from occurring during construction. All temporary erosion control measures required by the Kern County Grading Code (Chapter 17.28.140) would be included as BMPs in the SWPPP. The SWPPP would identify the precise implementation of BMPs. Implementation of the BMPs outlined in the SWPPP would avoid and/or minimize potential impacts such as erosion, sedimentation, and runoff that could result from construction of the project within the project site. The project proponent would also be required to submit grading plans accompanied by a soils engineering report, engineering geology report, and drainage calculations pursuant to the Kern County Grading Code (Section 17.28.070) to the Kern County Public Works Department to obtain required grading permits. Operation of the project would be subject to the State's Construction General Permit. Implementation of Mitigation Measure 4.6-7 (COM, BEF) would require preparation and compliance with a SWPPP.

No new impervious surfaces would be added to the area associated with the composting facility. Compliance with the NPDES program and the Kern County Grading Code would ensure that substantial erosion or siltation during construction does not occur, and impacts would be less than significant. Implementation of the project would not impede or redirect flood flows as the project site is not located within an identified flood zone.

Implementation of Mitigation Measure 4.6-7 (COM, BEF) would require preparation and compliance with a SWPPP; therefore, impacts would be less than significant with mitigation.

Bioenergy Facility

Construction of the bioenergy facility would require grading, excavation, and other ground disturbance. These activities have the potential to cause increased runoff, erosion, and sedimentation that would not otherwise occur at the project site. Because the soil types present within Site B are susceptible to erosion, proposed grading/excavation may expose soils to water erosion and siltation during construction activities, which could result in potentially significant impacts.

Additionally, if grading/excavation activities result in 1 acre or more of ground disturbance, the project proponent would be required to prepare a SWPPP in compliance with the CWA Section 402(p) NPDES program and the State's Construction General Permit. Mitigation Measure MM 4.6-7 (COM, BEF) would require the preparation of a SWPPP, which would include BMPs to prevent erosion and sedimentation from occurring during construction. All temporary erosion control measures required by the Kern County Grading Code (Chapter 17.28.140) would be included as BMPs in the SWPPP. Mitigation Measure MM 4.6-8 (COM, BEF) would also require the project proponent to submit grading plans accompanied by a soils engineering report, engineering geology report, and drainage calculations pursuant to the Kern County Grading Code (Section 17.28.070) to the Kern County Public Works Department to obtain required grading permits.

Operation of the bioenergy facility would result in approximately 6 acres of new impervious surfaces within Site B and would include the construction of a new stormwater drainage system. Stormwater runoff from the process unit area of the bioenergy facility, as well as the safety shower, hose stations, and firewater pump runoff from these areas, is proposed to be

collected in an on-site wastewater sump and stored in mobile water tanks. After testing, the water may be returned to the water tank for reuse, with or without filtration or treatment, or disposed of or utilized off-site. The area would generally be comprised of engineered and impervious surfaces associated with the bioenergy facility that are resistant to erosion. Compliance with the NPDES program, the State's General Construction Permit, the Kern County Grading Code, and prescribed mitigation measures would ensure that substantial erosion or siltation during construction does not occur, and impacts would be less than significant. Implementation of the project would not impede or redirect flood flows as the project site is not located within an identified flood zone. Impacts would be less than significant with implementation of Mitigation Measures MM 4.6-1 (COM, BEF), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), and MM 4.8-3 (COM, BEF).

Mitigation Measures

Implement Mitigation Measures MM 4.6-1 (COM, BEF), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF) (see Section 4.6, *Geology and Soils*, for mitigation measures), and MM 4.8-3 (COM, BEF) (see Section 4.8, *Hazards and Hazardous Materials*, for mitigation measure).

Level of Significance

Impacts would be less than significant with implementation of Mitigation Measures MM 4.6-1 (COM, BEF), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), and MM 4.8-3 (COM, BEF).

Impact 4.9-4: The project is not located in flood hazard, tsunami, or seiche zones, and the project would not risk release of pollutants due to project inundation.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The project sites are not located in any identified flood hazard, tsunami, or seiche zones. Therefore, there would be no impact related to release of pollutants due to project inundation in these zones.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.9-5: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

As noted in Impact 4.9-2, the project would receive water from the BVWSD. Chapter 6 “Water Supply Accounting – Water Budget” of the Buena Vista GSA GSP presents data related to the BVWSD’s current supplies and outlook for both supply and demand. It is anticipated that the BVWSD’s entitlement to Kern River through the year 2070 is expected to average 147,000 AFY. The BVWSD’s entitlement to SWP water is expected to be 10,700 AFY by the year 2030 and 9,642 AFY by the year 2070. These projected totals account for reductions in future supply due to climate change. The GSP has calculated the projected water demand and increased deliveries over this same period to develop a water budget. Despite the overall surplus diminishing, it is projected that the BVWSD will still have a net positive balance of water supply over the next 50 years. Therefore, the project would not interfere with a sustainable groundwater management plan and impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Section 3.8, *Cumulative Effects Overview*, of this EIR discusses cumulative projects near the project. (Table 3-15, *Cumulative Projects List*, in Chapter 3 lists specific projects considered in the cumulative impact analysis.) The geographic area for cumulative impacts to hydrology and water quality includes the local ephemeral drainages, watershed, and groundwater basin. Potential hydrology and water quality impacts associated with construction and operation of the project, including water quality degradation due to erosion, sedimentation, or the release of hazardous materials, would be limited to this geographic area.

Impact 4.9-6: The project would contribute to cumulative hydrology and/or water quality impacts.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

A cumulative impact analysis first identifies whether a cumulatively significant impact exists in the given resource area. If so, it determines whether the project will make a considerable contribution to that impact. Where a cumulative impact is severe, even a small contribution may be considerable (Section 15130(b) of the State CEQA Guidelines).

There are no current or proposed projects in the geographic area of the project that would cumulatively contribute to the violation of any water quality standards or waste discharge requirements. All future development projects would be subject to all applicable Federal, State, and County water quality regulations including, but not limited to, required adherence to the CWA, NPDES requirements, the National Flood Insurance Act, DWR requirements, the California Fish and Game Code, the California Water Code, the *Kern County General Plan*, and the Kern County Zoning Ordinance. Cumulative projects are not expected to result in substantial depletion of groundwater supplies or interference with groundwater recharge, alteration of existing drainage patterns in a manner that would result in substantial runoff/erosion/siltation, or substantial flooding or creation or contribution of stormwater runoff. Cumulative impacts would be less than significant with implementation of prescribed mitigation measures.

Cumulative water supply has been discussed in Section 4.17, *Utilities and Service Systems*, and it was concluded that sufficient groundwater is available and would not be depleted by the proposed project on a project or cumulative level.

Mitigation Measures

Implement Mitigation Measures MM 4.6-1 (COM, BEF), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF) (see Section 4.6, *Geology and Soils*, for mitigation measures), and MM 4.8-3 (COM, BEF) (see Section 4.8, *Hazards and Hazardous Materials*, for mitigation measure).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.6-1 (COM, BEF), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), and MM 4.8-3 (COM, BEF), impacts would be less than significant.

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4.10.1 Introduction

This section of the Environmental Impact Report (EIR) describes the affected environment and regulatory setting of the project for impacts that may affect land use and planning. It also describes the environmental and regulatory setting and discusses the need for mitigation measures, where applicable. The information in this section is primarily based on a review of the *Kern County General Plan* and the *Kern County Zoning Ordinance*.

4.10.2 Environmental Setting

The project site is in an unincorporated area of northwestern Kern County on Kern County Assessor's Parcel Numbers (APNs) 057-220-16, 057-240-29, 057-240-50, and 057-240-60. The unincorporated community of Lost Hills is located approximately 4.3 miles to the southeast. Two State highways (State Route [SR-] 46 and SR-33) are located 1.6 miles south and 6.4 miles west, respectively, from the project site. Interstate (I-) 5 is located approximately 5 miles east of the project site. Land in the project vicinity is generally characterized as a sparsely developed, rural agricultural area located in western Kern County. The nearest residence to the project site is 2.3 miles east of the project site at Munger Farms.

On-Site Land Uses

As described in Chapter 3, *Project Description*, the project sites are comprised of two adjacent sites, Sites A and B, which are separated by Holloway Road. Site A is an existing class III non-hazardous industrial waste landfill facility located at 14045 Holloway Road on the west side of Holloway Road at the G P Road junction. Existing landfill operations and the future eASP compost facility would be located within Site A. Site B is an equipment staging and storage lot on the east side of Holloway Road, north of G P Road and would be the future site of the proposed bioenergy facility. The sites are approximately 1.5 miles and 2.25 miles, respectively, north of State Route (SR) 46.

Site A

Lost Hills Environmental, LLC (the project proponent) owns Site A and operates the Lost Hills Environmental Industrial Landfill, which has been in operation since 1997. Operation of the 331-acre industrial waste landfill is allowed by CUP #9, Map 28. No permitted facility or permitted disposal area boundary changes are proposed to CUP #9, Map 28.

Site A was previously known as H.M. Holloway Inc. Landfill, and prior to that, the H.M. Holloway Gypsum Mine. The existing landfill is situated on 331 acres of previously mined land and consists of pits known as Pit "F," Pit "G," and Pit "E," as well as a connecting pit

referred to as Pit “FG.” These pits provide a total disposal footprint of 193 gross acres (includes total acreage of active landfill pit areas and surrounding buffers; 176 net acres not including buffers); the remaining 138 acres are buffer and utilized for ancillary activities, including, but not limited to, overburden storage, monitoring equipment, a leachate system, water storage, a truck washing station, and a required buffer area around the facility. H.M. Holloway Inc. continues to operate a gypsum mine facility located immediately north/northwest of Site A; however, the mine is not included within the project boundary.

Site A is primarily accessible from three entrance/exit points on the west side of Holloway Road. The project proposes to utilize the existing landfill routes, with the addition of directional traffic flow identifying ingress and egress for each site; therefore, no new site access is proposed as part of this project.

Site B

Lost Hills Environmental, LLC owns Site B and utilizes the area for equipment staging and storage for the H.M. Holloway Gypsum Mine as conditioned in CUP #1, Map 28. The project proponent has requested approximately 6 acres be removed from CUP #1, Map 28 to create Site B for the bioenergy facility. A new CUP would be issued to allow for construction and operation of the bioenergy facility. Site B is currently accessible from the east side of Holloway Road. The future bioenergy facility would utilize the current Site B access routes, with the addition of directional traffic flow identifying ingress and egress for each site; therefore, no new site access is proposed.

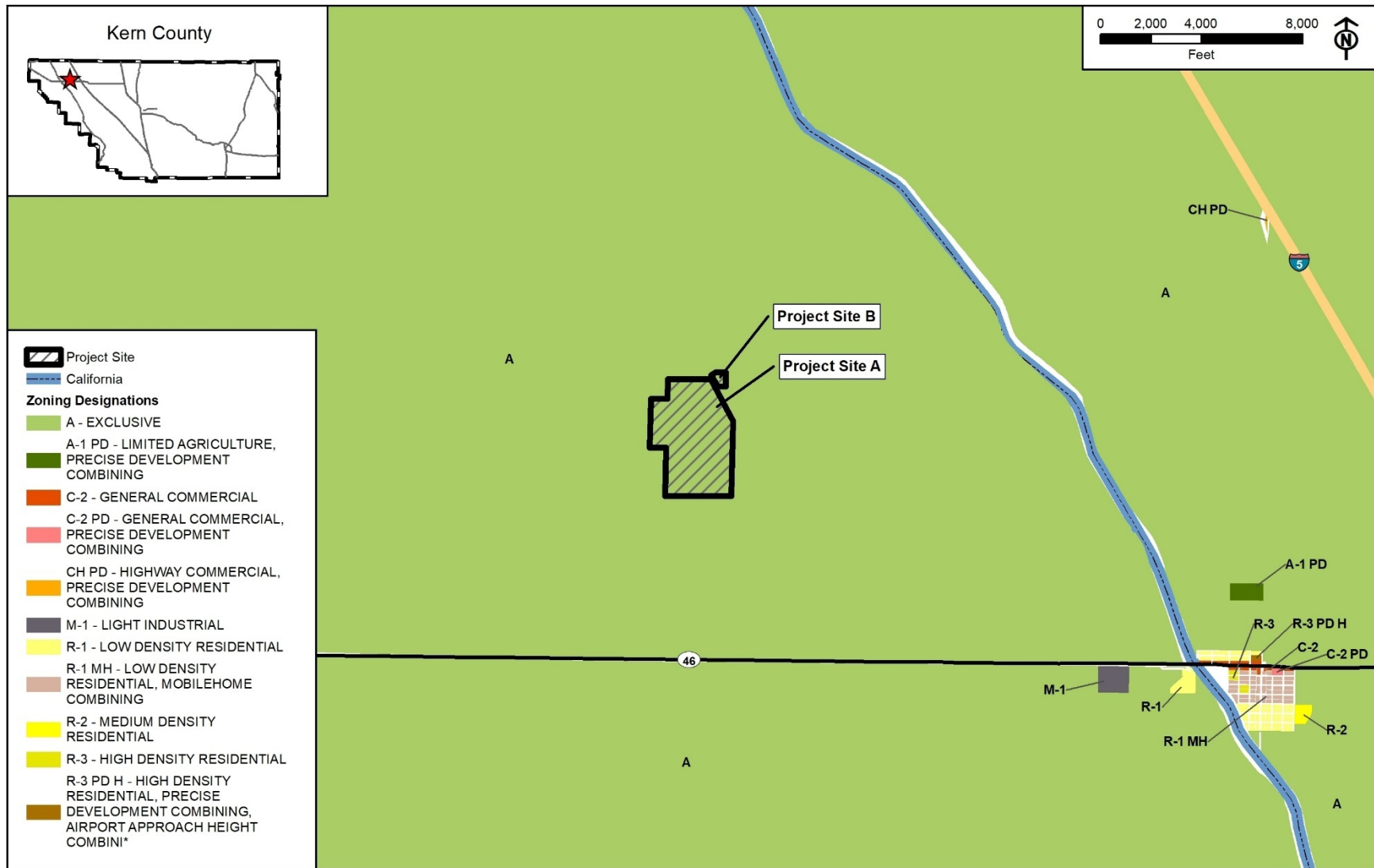
Surrounding Land Uses

Surrounding land uses include the H.M. Holloway Gypsum Mine to the north, undeveloped Federal land and the 3,000-acre Lost Hills Oil Field (owned and operated by various producers) to the east, a closed Kern County landfill and other undeveloped land to the south, and undeveloped land to the west. Other adjacent or nearby land uses include orchard and row-crop farming, a biosolids/green waste composting operation (Liberty Composting), and two State highways (SR 46 and SR 33). The California Aqueduct is the nearest major waterway and is approximately 2.13 miles east of the project sites.

The existing land use, General Plan land use designations, and zoning classifications for the project sites and surrounding lands are shown on **Figure 4.10-1, Existing General Plan Designations**, and **Figure 4.10-2, Existing Zoning Classifications**, and identified in **Table 4.10-1, Existing Land Uses, Zoning, and Land Use Designations**.

Kern County General Plan Map Provisions

As shown on **Figure 4.10-1, Existing General Plan Designations**, and **Figure 4.10-2, Existing Zoning Classifications**, and provided in **Table 4.10-1, Existing Land Uses, Zoning, and Land Use Designations**, Sites A and B are classified as Map Code 3.4 (Solid Waste Disposal Facility) and 3.4.1 (Solid Waste Disposal Facility Buffer), respectively.



**Figure 4.10-2
 Existing Zoning Classifications**

Table 4.10-1 Project and Surrounding Land Uses, Zoning, and Land Use Designations

	Existing Land Use	Existing General Plan Land Use Designation	Existing Zoning Classification
Site A	Developed with Lost Hills Environmental Landfill Facility	<ul style="list-style-type: none"> • 3.4 (Solid Waste Disposal Facility) 	A (Exclusive Agriculture)
Site B	H.M. Holloway Equipment Yard	<ul style="list-style-type: none"> • 3.4.1 (Solid Waste Disposal Facility Buffer) 	A (Exclusive Agriculture)
North	H.M. Holloway Gypsum Mine	<ul style="list-style-type: none"> • 3.4.1 (Solid Waste Disposal Facility Buffer) • 8.4/2.10 (Mineral and Petroleum (5-acre min)/ Nearby Solid Waste Disposal Facility) 	A (Exclusive Agriculture)
South	Undeveloped; Inactive Kern County Landfill	<ul style="list-style-type: none"> • 8.3 (Extensive Agriculture, 20-acre min) • 8.3/2.10 (Extensive Ag, 20-acre min)/ Nearby Solid Waste Disposal Facility) • 3.4 (Solid Waste Disposal Facility) 	A (Exclusive Agriculture)
East	Lost Hills Oilfield and Undeveloped Federal Land	<ul style="list-style-type: none"> • 8.4/2.10 (Mineral and Petroleum (5-acre min)/ Nearby Solid Waste Disposal Facility) • 1.1 (State and Federal Land) 	A (Exclusive Agriculture)
West	Undeveloped Land	<ul style="list-style-type: none"> • 8.3/2.10 (Extensive Ag, 20-acre min)/ Nearby Solid Waste Disposal Facility) • 3.4.1/2.10 (Solid Waste Disposal Facility Buffer/ Nearby Solid Waste Disposal Facility) • 3.4 (Solid Waste Disposal Facility) 	A (Exclusive Agriculture)

4.10.3 Regulatory Setting

Federal

There are no applicable Federal regulations to this issue area.

State

Solid Waste Facilities Permit

The California Department of Resources Recycling and Recovery (CalRecycle) issues Solid Waste Facilities Permits (SWFPs) that govern all aspects of landfill operational and closure activities. Some of the subjects governed by SWFPs include maximum daily tonnage, types of materials accepted for disposal, and landfill closure plans, including complete/final, partial, or clean closure activities. The Kern County Department of Environmental Health is the Local Enforcement Agency (LEA) that is responsible for providing regulatory oversight of solid waste handling activities, including inspections, and both agencies are required to review and approve changes to the existing SWFP.

Local

Land use and planning decisions within and adjacent to the project sites are guided and regulated by the *Kern County General Plan* and *Kern County Zoning Ordinance*. The *Kern County General Plan* contains goals, objectives, and policies and provides an overall foundation for establishing land use patterns. The *Kern County Zoning Ordinance* contains

regulations through which the *Kern County General Plan* provisions are implemented. The most relevant regulations pertaining to development of the proposed project are presented below.

Kern County General Plan

California Government Code 65300 requires Kern County to prepare and adopt a general plan. Its purpose is to give long-range guidance to Kern County officials making decisions affecting the growth and resources of unincorporated Kern County. The *Kern County General Plan* helps to ensure that day-to-day planning and land use decisions are in conformance with the long-range program designed to protect and further the public interest. It will be periodically reviewed and updated as the goals and requirements of the community evolve and change.

Each of the resource sections in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this EIR list goals and policies of the *Kern County General Plan* relevant to that resource subject. An evaluation of the project's potential to conflict with policies of the *Kern County General Plan* is presented in **Table 4.10-2, Project Consistency with Applicable Plans, Policies, and Regulations**, at the end of this section, and discussed in Impact 4.10-2, 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 2: In order to minimize risk to Kern County residents and their property, new development will not be permitted in hazard areas in the absence of implementing ordinances and programs. These ordinances will establish conditions, criteria, and standards for the approval of development in hazard areas.

Policy 3: Zoning and other land use controls will be used to regulate and, in some instances, to prohibit development in hazardous areas.

Policy 8: Encourage the preservation of the floodplain's flow conveyance capacity, especially in floodways, to be open space/passive recreation areas throughout the County.

Policy 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.

Policy 10: The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.

Policy 11: Protect and maintain watershed integrity within Kern County.

Implementation Measures

Implementation 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.

Implementation Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.

Implementation Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.

Implementation 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.

Implementation 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 10: Ensure landfill capacity for Kern County residents and industries.

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 9: Applicants for all solid waste disposal facilities (Map Code 3.4) and other waste facilities (Map Code 3.7) shall submit closure plans and financial assurance estimates to guarantee closure in conjunction with approval of the required conditional use permit. The requirement for financial assurances may also be satisfied if a State or federal agency will have lead permit responsibility for approval or operational oversight of the facility and which also will require the posting of financial assurances to guarantee site closure. In conjunction with the financial assurances filed with the County, applicants shall enter into a contract with the County to guarantee site closure.

Policy 11: A solid waste disposal facility (Map Code 3.4) and other waste facilities (Map Code 3.7) shall pay its pro-rata share of upgrading of pertinent County roads.

Policy 12: For solid waste disposal facilities, all necessary permits shall be obtained from the Kern County Environmental Health Services Department, Kern County Waste Management Department, State of California Integrated Waste Management Board, State of California Regional Water Quality Control Board, the appropriate Air Pollution Control District, and all other responsible agencies prior to the commencement of operations.

Policy 13: The County shall ensure landfill capacity for the residents and industry of Kern County.

Policy 14: All solid waste disposal facilities shall designate a buffer around the permitted disposal area as defined by the Map Code 3.4 land use designation.

Implementation Measures

Implementation Measure B: Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the time of approval of the Final Map. This implementation can be effectuated by the formation of a County work group.

Implementation Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.

Implementation Measure D: Involve utility providers in the land use and zoning review process.

Implementation 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.

1.8 Industrial*Goals*

Goal 3: Ensure compatibility with land use designations such as residential, commercial, or other land uses that may be affected by such activities.

Policies

Policy 1: Locations for new industrial activities shall be provided with adequate infrastructure (water, sewage disposal systems, roads, drainage, etc.) to minimize effects on County services.

Policy 5: Provide clustering of new industrial development adjacent to existing industrial uses and along major transportation corridors.

Policy 6: Encourage upgrading the visual character of existing industrial areas through the use of landscaping, screening, or buffering.

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 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 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 2: In areas with a resource designation on the General Plan map, only industrial activities which directly and obviously relate to the exploration, production, and transportation of the particular resource will be considered to be consistent with this General Plan.

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 Resource Conservation Service (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 25: Discourage incompatible land use adjacent to Map Code 8.4 (Mineral and Petroleum) areas.

Implementation Measures

Implementation 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.

Implementation 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 California Environmental Quality Act (CEQA) 64 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 extensions 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

Implementation Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the Environmental Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterizes the quality of upper groundwater in the project vicinity and evaluation of the extent to which, if any, the proposed use of alternative septic systems will adversely impact groundwater quality. If the evaluation indicates that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the

alternative septic system is installed, the applicant shall be required to supply sewage collection, treatment and disposal facilities.

1.10.2 Air Quality

Policies

Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.

Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that:

- (a) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and
- (b) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.

Policy 21: The County shall support air districts' efforts to reduce PM₁₀ and PM_{2.5} emissions.

Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, State, and local standards.

Implementation Measures

Implementation Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.

Implementation 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.

Implementation 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.

Implementation Measure J: The County should include PM₁₀ control measures as conditions of approval for subdivision maps, site plans, and grading permits.

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

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

Implementation Measure K: Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.

Implementation Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with the California Environmental Quality Act (CEQA).

Implementation Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Implementation 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.

Implementation 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 (CEQA), 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 (Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report) is prepared.

Implementation Measures

Implementation Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.

Implementation Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.

1.10.6 Surface Water and Groundwater

Policies

Policy 34: Ensure that water quality standards are met for existing users and future development.

Policy 41: Review development proposals to ensure adequate water is available to accommodate projected growth.

Policy 43: Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.

Policy 44: Discretionary projects shall analyze watershed impacts and mitigate for construction-related and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act (CEQA), to prevent the degradation of the watershed to the extent practical.

Implementation Measures

Implementation 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.
- 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 Measures

Implementation 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

Objectives

Objective 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.

Objective 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.

2.3 Highways

2.3.3 Highway Plan

Goals

Goal 5: Maintain a minimum Level of Service (LOS) D.

Policies

Policy 1: Development of roads within the County shall be in accordance with the Circulation Diagram Map. The chartered roads are usually on section and mid-section lines. This is because the road centerline can be determined by an existing survey.

Implementation Measures

Implementation Measure A: The Planning Department shall carry out the road network Policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. Planning Department can help developers and property owners in identifying where planned circulation is to occur.

2.3.4 Future Growth

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 Level Of Service (LOS) D. However, development proposed as part of a Community Plan or Specific Plan which utilizes Smart Growth Policies that encourage efficient multi-modal movements is allowed the flexibility to assess traffic and safety impacts through other means than Level Of Service (LOS). Utilization of the CEQA process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space and Conservation Element to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build off-site transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.

Policy 4: As a condition of private development approval, developers shall build roads needed to access the existing road network. Developers shall build these roads to County standards unless improvements along State routes are necessary then roads shall be built to Caltrans standards. Developers shall locate these roads (width to be determined by the Circulation Plan) along centerlines shown on the circulation diagram map unless otherwise authorized by an approved Specific Plan Line. Developers may build local roads along lines other than those on the circulation diagram map. Developers would negotiate necessary easements to allow this.

Policy 5: When there is a legal lot of record, improvement of access to County, city or State roads will require funding by sources other than the County. Funding could be by starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.

Implementation Measures

Implementation Measure C: Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.

2.3.10 Congestion Management Programs*Goals*

Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern Council of Government's Congestion Management Program.

Goal 2: To coordinate congestion management and air quality requirements and avoid multiple and conflicting requirements.

Policies

Policy 1: Pursuant to California Government Code § 65089(a), Kern County has designated Kern Council of Governments as the County's Congestion Management Agency (CMA).

Policy 2: The Congestion Management Agency is responsible for developing, adopting, and annually updating a Congestion Management Plan. The Plan is to be developed in consultation with, and with the cooperation of, the regional transportation agency (also Kern Council of Governments), regional transportation providers, local governments, Caltrans, and the air pollution control district.

Implementation Measures

Implementation Measure A: Kern County Council of Governments should request the proper consultation from County of Kern to develop and update the proper congestion management program.

Implementation Measure B: The elements within the Kern Congestion Management Program are to be implemented by each incorporated city and the County of Kern. Specifically, the land use analysis program, including the preparation and adoption of deficiency plans is required. Additionally, the adoption of trip reduction and travel demand strategies are required in the Congestion Management Program.

2.5 Other Modes**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: California Department of Transportation (Caltrans) should be made aware of the heavy truck activity on Kern County's roads.

Policy 2: Start a program that monitors truck traffic operations.

Policy 3: Promote a monitoring program of truck lane pavement condition.

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

Implementation 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.

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 7: Employ the best available methods of noise control.

Implementation Measures

Implementation Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.

Implementation 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.

Implementation 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} .

Implementation 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.

Implementation 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.

Implementation 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.

4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint

Implementation Measures

Implementation 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.

Implementation Measure F: The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by FEMA, shall be used as a source document for preparation of environmental documents pursuant to 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

Implementation Measure B: Require geological and soils engineering investigations in identified significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.

Implementation Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.

4.5 Landslides, Subsidence, Seiche, and Liquefaction

Policies

Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.

4.6 Wildland and Urban Fire

Policies

Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.

Policy 3: The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.

Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.

Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.

Implementation Measures

Implementation 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 Measures*

Implementation Measure A: Facilities used to manufacture, store, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent on-site hazards from affecting surrounding communities in the event of inundation.

4.10 Abandoned Open Shafts and Wells

In some areas of the County, there exist abandoned mine shafts that, if not secured, contribute to the injury of or fatality to unsuspecting members of the public. Many such shafts are within lands owned and controlled by various agencies of the Federal government.

Policies

Policy 1: The County should protect residents from the hazards of improperly abandoned mine shafts.

Policy 2: The County should protect residents from the hazards associated with development in areas where wells have been drilled and abandoned for exploration and/or production of oil and natural gas.

Implementation Measure

Implementation Measure B: Support the construction site review program of the Department of Oil, Gas and Geothermal Resources that ensures that wells are precisely located, properly plugged and abandoned, and tested for leakage prior to development of the area.

Chapter 5. Energy Element**5.2 Importance of Energy to Kern County***Policies*

Policy 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 10: The County should require acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses in accordance with the Noise Element of the General Plan.

5.4 Electricity Resources and Generation

5.4.4 Transformation Development (formerly called Waste-to-Energy Development)

Goals

Goal 1: To provide for the careful siting of proven transformation technologies which provide for minimum risks to the environment and to public health and safety.

Policies

Policy 1: The County should encourage the use of landfill gas recovery and methane recovery projects at existing facilities.

Policy 2: The County should encourage the safe and orderly development of biomass conversion facilities as an alternative to burning agricultural wastes.

Policy 3: When evaluating proposals for transformation plants, the County should take under consideration whether the projects will produce air pollutant emissions in quantities that could reduce the ability to site other energy projects.

Policy 4: New transformation facilities shall be in conformance with the Kern County General Plan and the Kern County and Incorporated Cities Integrated Waste Management Plan.

Implementation Measures

Implementation Measure A: The County shall continue to maintain provisions in the Kern County Zoning Ordinance to provide for the safe and orderly development of transformation projects.

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.

Policies

Policy 1: The County should encourage the development and upgrading of transmission lines and associated facilities (e.g., substations) as needed to serve Kern County’s residents and access the County’s generating resources, insofar as transmission lines do not create significant environmental or public health and safety hazards.

Policy 2: The County shall review all proposed transmission lines and their alignments for conformity with the Land Use, Conservation, and Open Space Element of this General Plan.

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

Policy 6: The County should encourage new transmission lines to be sited/configured to avoid or minimize collision and electrocution hazards to raptors.

Appendix E: Solid Waste Disposal Facilities Guidelines (Map Code 3.4)

Decision Procedure for Siting Solid Waste Disposal Facilities

1. Solid waste disposal facilities shall be designated on applicable General Plan maps or Specific Plan maps as “Solid Waste Disposal Facility” (Map Code 3.4).
 - A. When planning new organic and municipal solid waste disposal facilities the following siting criteria shall apply. All sites for organic and municipal solid waste disposal facilities shall exclude:
 - 4) 100-year floodplain (Map Code 2.5).
 - 5) High groundwater defined for facilities as:
Unlined Facilities: 100 feet below proposed depth of refuse.
Lined Facilities: 25 feet below proposed depth of refuse.

Title 19 Kern County Zoning Ordinance

The *Kern County Zoning Ordinance* establishes the basic regulations under which land is developed. This includes allowable uses, building setback requirements, and development standards. Pursuant to State law, the zoning ordinance must be consistent with the *Kern County General Plan*. As provided in **Table 4.10-1, Existing Land Uses, Zoning, and Land Use Designations**, the project sites are zoned as A (Exclusive Agriculture), which is defined below.

A – Exclusive Agriculture (Zoning Ordinance Chapter 19.12)

The project sites are zoned as A (Exclusive Agriculture). The purpose of the A district is to designate areas suitable for agricultural uses and to prevent the encroachment of incompatible uses onto agricultural lands and the premature conversion of such lands to nonagricultural uses. Uses in the A district are limited primarily to agricultural uses and other activities compatible with agricultural uses. Resource extraction and energy development uses, including mining and mineral extraction pursuant to Chapter 19.100, are permitted within this zone classification subject to securing a CUP in accordance with the standards and procedures set out in Chapter 19.104.

Chapter 19.104 Conditional Use Permits

Section 19.104.010 Purpose and Application

The purpose of this chapter is to establish procedures and general standards for the review and approval of conditional use permits authorized by various sections of this title. Whenever a use is listed in any section of this title as a use permitted subject to securing a conditional use permit, it shall be approved only if it is consistent with the county general plan and meets all requirements of this title and subject to any conditions deemed appropriate by the decision-making authority.

Section 19.104.040 Basis for Approval

The decision-making authority may approve or conditionally approve an application for a conditional use permit if it finds all of the following:

- A. The proposed use is consistent with the goals and policies of the applicable general or specific plan.
- B. The proposed use is consistent with the purpose of the applicable district or districts.
- C. The proposed use is listed as a use subject to a conditional use permit in the applicable zoning district or districts or a use determined to be similar to a listed conditional use in accordance with the procedures set out in Sections 19.08.030 through 19.08.080 of this title.

- D. The proposed use meets the minimum requirements of this title applicable to the use.
- E. The proposed use will not be materially detrimental to the health, safety and welfare of the public or to property and residents in the vicinity.

Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

The latest Regional Transportation Plan (RTP) for Kern County identifies future transportation improvements needed to serve the projected transportation needs of Kern County. The RTP details the existing transportation systems; sets goals, policies and projects; and identifies funding mechanisms for these projects. Transportation projects identified in the RTP include highway, street, and roadway projects; mass transportation; railroad; and other programs and projects related to the transportation needs of Kern County. The RTP was prepared by the Kern Council of Governments (COG) and adopted on August 16, 2018. The 2018 RTP is a 20-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 Federal, State, regional and local agencies. New to the 2018 RTP, California's Sustainable Communities and Climate Protection Act, or Senate Bill (SB) 375, calls for an RTP to include a Sustainable Communities Strategy (SCS) that reduces greenhouse gas (GHG) emissions from passenger vehicles and light-duty trucks by 5% per capita by 2020 and 10% per capita by 2035, as compared to 2005. In addition, SB 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation (RHNA) ensuring consistency between low income housing needs and transportation planning.

The intent of the SCS is to achieve the State's emissions reduction targets for automobiles and light trucks. The SCS will also provide opportunities for a stronger economy, healthier environment, and safer quality of life for community members in Kern County. The RTP/SCS seeks to improve economic vitality, air quality, the health of communities, and transportation and public safety; promote the conservation of natural resources and undeveloped land; and increase access to community services, regional and local energy independence, and opportunities to help shape our community's future.

The 2018 RTP/SCS financial plan identifies how much money is available to support the region's transportation investments. The plan includes a core revenue forecast of existing Federal, State, and local sources along with funding sources that are considered to be reasonably available over the time horizon of the RTP/SCS. These new sources include adjustments to Federal and State gas tax rates based on historical trends and recommendations from two national commissions (National Surface Transportation Policy and Revenue Study Commission and National Surface Transportation Infrastructure Financing Commission), leveraging of local sales tax measures, local transportation impact fees, potential national freight program/freight fees, future State bonding programs, and mileage based user fees (Kern COG 2018).

Kern County Solid Waste Management Plan

The *Kern County 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.

4.10.4 Impacts and Mitigation Measures

This section evaluates the impacts related to potential land use conflicts associated with the project 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, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

For the purposes of this analysis, relevant documents (particularly the *Kern County General Plan* and *Kern County Zoning Ordinance*) were consulted, and a site visit was performed. The project's consistency with plans and policies for each environmental topic area is summarized below and is described in greater detail in the relevant environmental topic sections of Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist (updated 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 land use and planning. The Kern County Environmental Checklist states that a project would normally be considered to have a significant impact related to land use and planning if it would:

- a. Physically divide an established community; and/or
- b. Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Project Impacts and Mitigation Measures

Impact 4.10-1: The project would physically divide an established community.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The proposed project is located within a rural agricultural and industrial area approximately 4.3 miles northwest of the unincorporated community of Lost Hills. As provided in **Table 4.10-1, *Project and Surrounding Land Uses, Zoning, and Land Use Designations***, Site A is designated as Map Code 3.4 (Solid Waste Disposal Facility), and Site B is designated as Map Code 3.4.1 (Solid Waste Disposal Facility Buffer). Surrounding land uses primarily include agriculture, mineral and petroleum, and solid waste disposal facility-related uses. There are no residential land uses within or adjacent to the project sites; the nearest residences are located approximately 2.3 miles east of the project sites at Munger Farms. Based on the rural composition of the project area and extent of agricultural- and industrial-related land use designations, the project would not divide an established community, and no impacts would occur as a result of project implementation.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.10-2: 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.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The *Kern County General Plan* and *Kern County Zoning Ordinance* establish local land use policies and regulations that are applicable to the project. The following discussion evaluates the project's conformity to these plans, policies, and regulations.

Kern County General Plan

As shown above in **Table 4.10-1, *Project and Surrounding Land Uses, Zoning, and Land Use Designations***, and on **Figure 4.10-1, *Existing General Plan Designations***, Site A has a General Plan land use designation of 3.4 (Solid Waste Disposal Facility), and Site B has a General Plan Designation of 3.4.1 (Solid Waste Disposal Facility Buffer).

Table 4.10-2, *Project Consistency with Applicable Plans, Policies, and Regulations*, presents an evaluation of the project's consistency with the *Kern County General Plan*. The table lists

the goals and policies in the Regulatory Setting and provides analysis on the project's general consistency with overarching policies. Additionally, the table provides goals and policies of issue areas that are presented in more detail in other sections of the EIR. As evaluated in detail in Table 4.10-2, the project is generally consistent with applicable goals and policies of the *Kern County General Plan*. However, the project would be potentially inconsistent with Goal 1 provided in Section 1.4 of the *Land Use, Open Space, and Conservation Element* of the *Kern County General Plan*. Additionally, the project would be potentially inconsistent with Policy 6 provided in Section 1.8 of the *Land Use, Open Space, and Conservation Element*.

As described in **Table 4.10-2, Project Consistency with Applicable Plans, Policies, and Regulations**, Section 1.4, Goal 1 promotes the provision of cost-effective public services and facilities for Kern County residents. The proposed project would expand waste streams at the existing landfill facility. Per a comment letter received from the Kern County Department of Public Works in response to the Notice of Preparation/Initial Study (NOP/IS) for the Draft EIR (included as Appendix A of this EIR), the proposed waste stream expansion could create jurisdictional fiscal impacts caused by increased waste disposal, which, in turn, could create the need for increased diversion to maintain Assembly Bill (AB) 939 compliance. Additionally, if waste streams are expanded, the existing landfill may no longer be viewed as only an industrial waste site. Therefore, the project risks the potential that CalRecycle may deny future Kern County petitions for disposal modifications to the landfill, thereby increasing diversion requirements and costs incurred by Kern County residents. As such, the project would be inconsistent with this goal. As previously described, conflicts with existing plans and policies do not, in themselves, indicate a significant environmental effect related to the topic of Land Use and Planning within the meaning of CEQA unless the project substantially conflicts with a land use plan or policy that was adopted for the purpose of avoiding or mitigating an environmental effect, such that a substantial adverse physical change in the environment would result. Because Section 1.4, Goal 1 focuses on the fiscal implications of land use changes or development proposals that affect public services and facilities, the project's potential inconsistency with this goal is not relevant for the purposes of CEQA evaluation and does not constitute a significant environmental impact.

As described in **Table 4.10-2, Project Consistency with Applicable Plans, Policies, and Regulations**, Section 1.8, Policy 6 encourages proposed industrial projects to upgrade the visual character of existing industrial areas through the use of landscaping, screening, or buffering. The existing landfill and composting facility would be within Site A, which is surrounded by a 1,320-foot buffer in accordance with Map Code 3.4.1 (Solid Waste Disposal Facility Buffer). The proposed bioenergy facility would be within Site B, which is adjacent to Holloway Road. The proposed bioenergy facility would not include a visual buffer, landscaping, or screening and would be visible to motorists traveling along Holloway Road. As described in Section 4.1, *Aesthetics*, of the EIR, the project would result in less-than-significant impacts to the visual character or quality of public views of the site and its surroundings. While the project would alter the physical appearance of the sites and region, the underlying public perception of highly disturbed industrial use would remain unchanged. While the project would not substantially degrade the existing visual character or quality, the project does not upgrade the existing visual character of the industrial area, resulting in a potential inconsistency with Section 1.8, Policy 6.

State CEQA *Guidelines* Section 15125(d) does not require a project to be consistent with every goal and policy of a land use plan. Rather, the intent of an environmental impact analysis is to determine if a proposed project meets the general intent of the plans and/or would not preclude the attainment of their primary goals. The rule of general plan consistency is that the project must at least be compatible with the objectives and policies of the general plan (Sequoyah Hills Homeowners Assn. v. City of Oakland [1993] 23 Cal.App.4th 704, 717–718 [29 Cal. Rptr. 2d 182] Friends of Lagoon Valley, supra, 154 Cal. App. 4th at p. 817.). “[S]tate law does not require precise conformity of a proposed project with the land use designation for a site, or an exact match between the project and the applicable general plan. Instead, a finding of consistency requires only that the proposed project be ‘compatible with the objectives, policies, general land uses, and programs specified in’ the applicable plan. The courts have interpreted this provision as requiring that a project be “in agreement or harmony with” the terms of the applicable plan, not in rigid conformity with every detail thereof” (San Franciscans Upholding the Downtown Plan v. City and County of San Francisco [2002] 102 Cal.App.4th 656, 678 [125 Cal. Rptr. 2d 745]). To reiterate, the essential question is “whether the project is compatible with, and does not frustrate, the general plan’s goals and policies” (Napa Citizens, supra, 91 Cal. App. 4th at p. 378.).

As indicated in **Table 4.10-2, Project Consistency with Applicable Plans, Policies, and Regulations**, the project is not located in a hazardous area or floodplain and would not substantially adversely affect public services (e.g., fire protection, law enforcement), public utilities (e.g., water or stormwater drainage), or public facilities (e.g., roadway capacity, congestion). The project would incorporate mitigation measures to minimize impacts on special-status species, cultural and paleontological resources, air quality, and water quality. Further, the project would be compatible with surrounding land uses and would not conflict with surrounding agricultural, mineral, or petroleum uses. Additionally, the project would provide an alternative source of clean energy and would help to divert additional organic waste from existing landfills. While the project is inconsistent with Section 1.8, Policy 6 of the *Land Use, Open Space, and Conservation Element* of the *Kern County General Plan*, the project is compatible with the element’s overall goals and policies aimed at avoiding conflicts with incompatible land uses, conserving environmental resources, and preserving open space areas. For these reasons, the project would not result in a significant environmental impact due to a conflict with an adopted *Kern County General Plan* policy aimed at avoiding or mitigating an environmental effect. Impacts would be less than significant.

Kern County Zoning Ordinance

As provided in **Table 4.10-1, Existing Land Uses, Zoning, and Land Use Designations**, the project sites are zoned A (Exclusive Agriculture). Under the exclusive agriculture zoning, the following uses are subject to CUPs:

1. Electrical power generating plants
2. Waste-to-energy facilities
3. Green-waste collection, recovery, and composting

The proposed project would require the following land-use related discretionary approvals, as further described in Chapter 3, *Project Description*, of the EIR:

- **Modification #1, CUP #1, Map 28:** Amendment to the boundaries of the CUP #1, Map 28 of the existing mining facility to remove approximately 6 acres of the project site (Site B), which will become the location for the proposed bioenergy facility.
- **Issuance of CUP #13, Map 28:** Establishment of a new CUP that would facilitate the construction of a 3 MW (net) bioenergy facility.
- **Modification #2, CUP #9, Map 28:** Amendment to CUP #9, Map 28 of the existing Class III Non-Hazardous Industrial Waste Landfill to include:
 - a revision in the allowable waste streams permitted at the landfill to allow the acceptance and disposal of various materials, and
 - a revision to allow for an increase in permitted hours of operation and an eASP composting facility sited on 136.2 acres within the current landfill permitted facility boundary. Material accepted for composting at the facility would include biosolids, green waste, food waste, manure, and wood waste, for a total 640,000 tons per year (TPY).

With approval of the above listed CUPs, the proposed project would be consistent with the zoning ordinance and would not conflict with land use or zoning classification for the sites. Therefore, impacts would be less than significant with implementation of the mitigation measures included throughout this EIR.

Mitigation Measures

Implement Mitigation Measures MM 4.1-1 (COM, BEF, LDF) (see Section 4.1, *Aesthetics*, for mitigation measures); MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM) (see Section 4.2, *Air Quality*, for mitigation measures); MM 4.3-1 (COM, BEF) through MM 4.3-3 (COM, BEF), MM 4.3-4 (COM) through MM 4.3-6 (COM), MM 4.3-7 (COM, BEF), and MM 4.3-8 (COM) through MM 4.3-13 (COM) (see Section 4.3, *Biological Resources*, for mitigation measures); MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF) (see Section 4.4, *Cultural Resources*, for mitigation measures); MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), MM 4.6-9 (BEF), MM 4.6-10 (BEF), MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF) (see Section 4.6, *Geology and Soils*, for mitigation measures); MM 4.8-1 (COM, BEF) through MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), MM 4.8-6 (COM, BEF, LDF), MM 4.8-7 (COM, BEF, LDF), and MM 4.8-8 (COM, BEF, LDF) (see Section 4.8, *Hazards and Hazardous Materials*, for mitigation measures); MM 4.12-1 (COM, BEF) (see Section 4.12, *Noise*, for mitigation measures); MM 4.14-1 (COM, BEF) (see Section 4.14, *Public Services*, for mitigation measures); MM 4.15-1 (COM),

MM 4.15-2 (COM), MM 4.15-3 (COM, BEF), and MM 4.15-4 (COM, BEF) (see Section 4.15, *Transportation and Traffic*, for mitigation measures); and MM 4.17-1 (BEF), MM 4.17-2 (COM), MM 4.17-3 (COM, BEF), MM 4.17-4 (COM, LDF), and MM 4.17-5 (COM) (see Section 4.17, *Utilities and Service Systems*, for mitigation measures), in addition to the mitigation measures listed below.

MM 4.10-1 (COM) Prior to issuance of any building permit, the project proponent shall provide a Closure Plan for Pit E for review and approval by the Local Enforcement Agency.

MM 4.10-2 (BEF) Prior to issuance of any building permit, the project proponent shall provide a Decommission Plan for review and approval by the Kern County Planning and Natural Resources Department. The Decommission Plan would be carried out by the project proponent or a Kern County-contracted consulting firm(s) at a cost to be borne by the project proponent. The Decommission Plan shall factor in the cost to remove the gasification system and support systems and structures, replace any disturbed soil from removal of support structures, and control fugitive dust on the remaining undeveloped land. The repurposing, resale, and salvage value of all personal property, including the gasification system and support structures, and real property interests, if any, held by the project proponent on the date of original valuation and as adjusted annually by the Kern County Planning and Natural Resources Department or Kern County-contracted consulting firm(s), as described below, 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 bioenergy facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project proponent shall post or establish and maintain financial assurances with Kern County related to the deconstruction of the site as identified in the approved Decommission Plan in the event that at any point in time the project proponent determines it is not in the company's best interest to operate the facility.

The financial assurance required prior to issuance of any building permit shall be established using one of the following:

- a. An irrevocable letter of credit;
- b. A surety bond;
- c. A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommission plan; or
- d. Other financial assurances as reviewed and approved by the respective Kern County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.

The financial institution or surety company shall give Kern County at least a 30-day notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed every 5 years by the Kern County Planning and Natural Resources Department or Kern 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 gasification systems and support structures identified on the approved Decommission Plan. Should the project operator deconstruct the site on their own, Kern County will not pursue forfeiture of the financial assurance.

Once deconstruction has occurred, financial assurance will no longer be required, and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommission of the site by Kern County shall be returned to the project proponent.

Should the bioenergy facility not be in operational condition for a consecutive period of 24 months due to reasons within the sole and reasonable control of the property owner, the site shall be deemed abandoned and shall be removed within 60 days from the date a written notice is sent to the property owner, as well as the project operator, by Kern County. Within this 60-day period, the property 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 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 bioenergy facility that has been deemed abandoned after notice to the owner and a written determination by the Kern County Planning and Natural Resources Director be permitted to remain in place for more than 48 months from the date the bioenergy facility was first deemed abandoned by written determination by the Kern County Planning and Natural Resources Director.

Level of Significance after Mitigation

With implementation of the aforementioned mitigation measures, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative Setting

The geographic scope for cumulative land use impact considerations includes closely related past, present, and reasonably foreseeable future projects within the vicinity of the project sites. Section 3.8, *Cumulative Effects Overview*, of this EIR discusses cumulative projects near the project. (Table 3-15, *Cumulative Projects List*, in Chapter 3, *Project Description*, lists specific projects considered in the cumulative impact analysis.)

Impact 4.10-3: The project would contribute to cumulative land use and planning impacts.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

Implementation of the proposed project, combined with the development of ongoing projects and future industrial projects in the greater project area could potentially result in cumulative impacts associated with land use and planning if these projects collectively conflict with either existing land uses or other future projects in the area. The project would not result in the loss of land designated as agriculture or open space. As such, the project would not contribute to a cumulative loss in such designated land. Potential land use impacts require evaluation on a case-by-case basis because of the interactive effects of a specific development and its immediate environment. As described in **Table 4.10-2, *Project Consistency with Applicable Plans, Policies, and Regulations***, the proposed project would not result in significant conflicts with the *Kern County General Plan*. In addition, with approval of all discretionary requests, the proposed project would be an allowable use that would not conflict with the land use or zoning classification for the sites. Mitigation Measure MM 4.10-1 (COM) would require the project proponent to prepare and submit a closure plan for Pit E for review and approval by the Kern County Public Works Department to ensure proper closure procedures and consistency with the General Plan. Therefore, the proposed project would not result in a cumulatively considerable impact related to land use with implementation of the mitigation measures included throughout this EIR. While no significant impact is identified, the project proponent would implement Mitigation Measure MM 4.10-2 (BEF) prior to the issuance of a building permit for the bioenergy facility.

Mitigation Measures

Implement Mitigation Measures MM 4.10-1 (COM) and 4.10-2 (BEF), as well as MM 4.1-1 (COM, BEF, LDF) (see Section 4.1, *Aesthetics*, for mitigation measures); MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM) (see Section 4.2, *Air Quality*, for mitigation measures); MM 4.3-1 (COM, BEF) through MM 4.3-3 (COM, BEF), MM 4.3-4 (COM) through MM 4.3-6 (COM), MM 4.3-7 (COM, BEF), and MM 4.3-8 (COM) through MM 4.3-13 (COM) (see Section 4.3, *Biological Resources*, for mitigation measures); MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF) (see Section 4.4, *Cultural Resources*, for mitigation measures); MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), MM 4.6-9 (BEF), MM 4.6-10 (BEF), MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF) (see Section 4.6, *Geology and Soils*, for mitigation measures); MM 4.8-1 (COM, BEF) through MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), MM 4.8-6 (COM, BEF, LDF), MM 4.8-7 (COM, BEF, LDF), and MM 4.8-8 (COM, BEF, LDF) (see Section 4.8, *Hazards and Hazardous Materials*, for mitigation measures); MM 4.12-1 (COM, BEF) (see Section 4.12, *Noise*, for mitigation measures); MM 4.14-1 (COM, BEF) (see Section 4.14, *Public Services*, for mitigation measures); MM 4.15-1 (COM), MM 4.15-2 (COM), MM 4.15-3

(COM, BEF), and MM 4.15-4 (COM, BEF) (see Section 4.15, *Transportation and Traffic*, for mitigation measures); and MM 4.17-1 (BEF), MM 4.17-2 (COM), MM 4.17-3 (COM, BEF), MM 4.17-4 (COM, LDF), and MM 4.17-5 (COM) (see Section 4.17, *Utilities and Service Systems*, for mitigation measures).

Level of Significance after Mitigation

With implementation of the aforementioned mitigation measures, cumulative impacts would be less than significant.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
<i>Kern County General Plan, Chapter 1. Land Use, Open Space, and Conservation Element</i>		
1.3 Physical and Environmental Constraints (Map Codes 2.5 – Flood Hazard and 2.10 – Nearby Waste Facility)		
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	The project includes the addition of a composting facility on closed portions of an existing solid waste disposal facility and a bioenergy facility within an existing equipment staging and storage area for the H.M. Holloway Gypsum Mine. As described in Section 4.8, <i>Hazards and Hazardous Materials</i> , neither facility is located on a hazardous site. 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	No portion of the project sites is located within areas designated as Map Code 2.1, 2.2, 2.3, 2.5, 2.6-2.9, 2.10, or 2.11. Hydrology impacts are evaluated in Section 4.9, <i>Hydrology and Water Quality</i> , and seismic hazards are evaluated in Section 4.6, <i>Geology and Soils</i> . The project would be consistent with this policy.
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.	Consistent	The project would not be sited in hazardous areas. See <i>1.3 Physical and Environmental Constraints, Goal 1</i> above. The project would be consistent with this policy.
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 would not be sited in hazardous areas. See <i>1.3 Physical and Environmental Constraints, Goal 1</i> , above. The project would be consistent with this policy.
Policy 8: Encourage the preservation of the floodplain's flow conveyance capacity, especially in floodways, to be open space/passive recreation areas throughout the County.	Consistent	Hydrology impacts are evaluated in Section 4.9, <i>Hydrology and Water Quality</i> . The project sites are not located within a 100-year flood zone identified by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map. The project does not propose habitable structures. The composting facility would be sited within an existing solid waste disposal site, and the bioenergy facility would be sited within an existing equipment staging and storage area for the H.M. Holloway Gypsum Mine. The project would not substantially change existing hydrological patterns. The project would be consistent with this policy.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
Policy 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.	Consistent	The project sites are not located within a 100-year flood zone identified by the FEMA. See 1.3 <i>Physical and Environmental Constraints, Policy 8</i> , above.
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	The project sites are not located within a 100-year flood zone identified by FEMA. See 1.3 <i>Physical and Environmental Constraints, Policy 8</i> , above.
Policy 11: Protect and maintain watershed integrity within Kern County.	Consistent with Implementation of Mitigation Measure MM 4.6-7 (COM, BEF)	The existing landfill operates under the Regional Water Quality Control Board (RWQCB) Central Valley Region Waste Discharge Requirements (WDRs) Order Number R5-2010-0123. Under the permit, there are 12 groundwater monitoring wells and a system to manage and collect leachate. Both the proposed composting facility and the bioenergy facility would be required to obtain new or revised WDRs for operations. Per WDR Order R5-2010-0123, it has been demonstrated that the landfill's site characteristics alone, without a liner, meet the required performance goals and will not impair the beneficial uses of the surface water or groundwater beneath or adjacent to the landfill in accordance with 27 California Code of Regulations (CCR) 20260(b)(1). In addition, the project would be required to develop Stormwater Pollution Prevention Plans (SWPPPs) for coverage under the State Water Resources Control Board (SWRCB) General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit), which would minimize potential water quality impacts during construction. Implementation of Mitigation Measure MM 4.6-7 (COM, BEF) would incorporate BMPs consistent with the Kern County NPDES General Construction Permit Program and would require the project proponent to prepare an Erosion and Sedimentation Control Plan as well as a SWPPP.
Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize permitted topographic alteration and soil erosion while maintaining soil stability.	Consistent with Implementation of Mitigation Measures MM 4.6-1 (COM, BEF) and MM 4.6-7 (COM, BEF)	As discussed in Section 4.6, <i>Geology and Soils</i> , the project would implement a SWPPP, which includes erosion control best management practices (BMPs) designed to prevent disturbed soils from moving off-site. Mitigation Measure MM 4.6-1 (COM, BEF) would require the project proponent to limit grading to the minimum area necessary for construction and retain a

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
		<p>California-registered professional engineer to approve the final grading earthwork plans prior to construction. In addition, per Mitigation Measure MM 4.6-7 (COM, BEF), the project would also implement an Erosion and Sedimentation Control Plan, which includes a suite of erosion and sediment control BMPs. A grading permit would be obtained from Kern County prior to commencement of construction activities. According to Chapter 17.28 of the <i>Kern County Grading Ordinance</i>, this includes submittal of grading plans to Kern County for review prior to issuance of a grading permit and grading activities on the project site. Kern County review of grading plans would ensure that appropriate erosion control measures have been implemented on-site. Therefore, the project would be consistent with this measure.</p>
<p>Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.</p>	<p>Consistent</p>	<p>The project sites are not located within a 100-year flood zone identified by FEMA. See 1.3 <i>Physical and Environmental Constraints, Policy 8</i>, above.</p>
<p>Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.</p>	<p>Consistent</p>	<p>The project sites are not located within a 100-year flood zone identified by FEMA. See 1.3 <i>Physical and Environmental Constraints, Policy 8</i>, above.</p>
<p>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.</p>	<p>Consistent</p>	<p>The project sites are not located within a 100-year flood zone identified by FEMA. See 1.3 <i>Physical and Environmental Constraints, Policy 8</i>, above.</p>
<p>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.</p>	<p>Consistent with Implementation of Mitigation Measure MM 4.6-7 (COM, BEF)</p>	<p>Section 4.9, <i>Hydrology and Water Quality</i>, discusses impacts related to soil-disturbing activities and required compliance with Kern County's National Pollutant Discharge Elimination System (NPDES) applicability regulation, which requires projects to comply with the SWRCB Construction General Permit. In addition, as discussed in Section 4.6, <i>Geology and Soils</i>, of this EIR, grading would be subject to compliance with the Kern County NPDES and the implementation of required BMPs would minimize the potential for erosion or loss of topsoil. Since project construction would disturb over 1 acre of ground, the project operator would conform to the requirements of the NPDES General Construction Permit Program through the preparation of a SWPPP, including erosion control and sediment control BMPs designed to prevent disturbed soils from moving off-site. Implementation of Mitigation Measure MM 4.6-7</p>

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
		(COM, BEF) would incorporate BMPs consistent with the Kern County NPDES General Construction Permit Program and would require the project proponent to prepare an Erosion and Sedimentation Control Plan as well as a SWPPP.
1.4 Public Services and Facilities (Map Codes 3.4 – Solid Waste Disposal Facility, and 3.4.1 – Solid Waste Disposal Facility Buffer Zone)		
<p>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.</p>	<p>Potentially inconsistent with implementation of Mitigation Measure MM 4.8-1 (COM, BEF) and MM 4.14-1 (COM, BEF)</p>	<p>As described in Section 4.14, <i>Public Services</i>, the project would add approximately 90 temporary workers and 20 full-time workers. This increase in workforce would not result in a substantial increase in the demand for public services or facilities. However, the project involves the transportation, storage, and use of hazardous materials, which can increase demand for fire protection services due to accidental occupational exposure incidents or accident conditions involving the release of hazardous materials into the environment. As such, the project would require implementation of Mitigation Measure MM 4.8-1 (COM, BEF), which requires an update to the existing Landfill Operations Safety Plan to include additional measures to address protection associated with operation of the new composting and bioenergy facilities. The updated plan would include specific measures regarding the handling of aqueous ammonia and training for all personnel involved in the handling of aqueous ammonia. The project proponent would also be required to pay appropriate Kern County development impact fees for fire protection infrastructure and sheriff services.</p> <p>Additionally, per a comment letter received from the Kern County Department of Public Works in response to the NOP/IS for the proposed project (see Appendix A), the proposed waste stream expansions associated with the existing landfill could create jurisdictional fiscal impacts caused by increased waste disposal, which, in turn, could create the need for increased diversion to maintain compliance under the Integrated Waste Management Act, AB 939¹. In addition, if waste streams are expanded, the existing landfill may no longer be viewed as only an industrial waste site. Therefore, the project risks the potential that CalRecycle will deny future</p>

¹ AB 939 mandates a reduction of waste being disposed: jurisdictions were required to meet diversion goals of 25% by 1995 and 50% by the year 2000. AB 939 also established an integrated framework for program implementation, solid waste planning, and solid waste facility and landfill compliance.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
		Kern County petitions for disposal modifications to the landfill, thereby increasing diversion requirements and costs incurred by Kern County residents and businesses. As such, the project would be potentially inconsistent with this goal.
Goal 5: Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.	Consistent	Public utility impacts are evaluated in Section 4.17, <i>Utilities and Service Systems</i> , of this EIR. An analysis of water supplies available to serve the project is provided therein. Water would be provided by the Buena Vista Water Storage District (BVWSD) via the Berrenda Mesa Water District (BMWD), which has entered a 20-year, 250 acre-feet per year (AFY) agreement with the project proponent. The BVWSD is expected to have sufficient water entitlements in order to meet all of its expected demand, including the additional demand needed for the project. As such, there would be sufficient water supply for other uses in Kern County, and the project would be consistent with this goal.
Goal 10: Ensure landfill capacity for Kern County residents and industries.	Consistent with Implementation of Mitigation Measure MM 4.17-3 (COM, BEF)	Impacts to landfill capacity are evaluated in Section 4.17, <i>Utilities and Service Systems</i> . As described therein, the proposed project would generate a limited amount of waste and would not significantly impact Kern County landfills. Additionally, the project would help to divert additional organic waste from existing landfills, thereby reducing the total volume of waste likely to be stored in regional landfills compared to existing conditions. Further, with implementation of Mitigation Measure MM 4.17-3 (COM, BEF), a recycling coordinator would ensure the separation and proper disposal of recyclable materials and solid waste during construction and operation, resulting in a less-than-significant impact to solid waste providers. The project would be consistent with this goal.
Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.	Consistent with implementation of Mitigation Measure MM 4.14-1 (COM, BEF)	As described in Section 4.14, <i>Public Services</i> , the project proponent would be required to pay appropriate development impact fees to Kern County for fire protection infrastructure and sheriff services. With payment of the required development impact fees, any additional fire or police protection services, facilities, or personnel required as a result of the proposed project would be appropriately funded. The project would be consistent with this policy.
Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.	Consistent	Public utility impacts are evaluated in Section 4.17, <i>Utilities and Service Systems</i> . As described therein, the project would have less-than-significant impacts on water, wastewater treatment, stormwater drainage, electric power,

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
		natural gas, or telecommunications facilities. The project would be consistent with this policy.
Policy 6: The County will ensure adequate fire protection to all Kern County residents.	Consistent	See 1.4 <i>Public Services and Facilities</i> , Goal 1, above.
Policy 7: The County will ensure adequate police protection to all Kern County residents.	Consistent	See 1.4 <i>Public Services and Facilities</i> , Goal 1, above.
Policy 9: Applicants for all solid waste disposal facilities (Map Code 3.4) and other waste facilities (Map Code 3.7) shall submit closure plans and financial assurance estimates to guarantee closure in conjunction with approval of the required conditional use permit. The requirement for financial assurances may also be satisfied if a State or federal agency will have lead permit responsibility for approval or operational oversight of the facility and which also will require the posting of financial assurances to guarantee site closure. In conjunction with the financial assurances filed with the County, applicants shall enter into a contract with the County to guarantee site closure.	Consistent	The proposed Modification #2 to the existing landfill CUP #9, Map 28 would require approval of a revised SWFP by the Kern County Public Health Department, acting as the LEA for CalRecycle. As part of the revised permit, the applicant will be required to submit a closure plan for Pit E for review and approval. As part of SWFP approval, financial assurance will be required by the RWQCB. The project would be consistent with this policy.
Policy 11: A solid waste disposal facility (Map Code 3.4) and other waste facilities (Map Code 3.7) shall pay its pro-rata share of upgrading of pertinent County roads.	Consistent with implementation of Mitigation Measures MM 4.15-1 (COM), MM 4.15-2 (COM), and MM 4.15-3 (COM, BEF)	As described in Section 4.15, <i>Transportation and Traffic</i> , Mitigation Measures MM 4.15-1 (COM), MM 4.15-2 (COM), and MM 4.15-3 (COM, BEF) would require the project proponent to implement infrastructure improvements to mitigate project impacts on the local transportation system.
Policy 12: For solid waste disposal facilities, all necessary permits shall be obtained from the Kern County Environmental Health Services Department, Kern County Waste Management Department, State of California Integrated Waste Management Board, State of California Regional Water Quality Control Board, the appropriate Air Pollution Control District, and all other responsible agencies prior to the commencement of operations.	Consistent	The project includes modifications to an existing landfill facility and a new composting facility. As provided in Chapter 3, <i>Project Description</i> , these facilities would obtain all necessary entitlements. The project would be consistent with this policy.
Policy 13: The County shall ensure landfill capacity for the residents and industry of Kern County.	Consistent	See 1.4 <i>Public Services and Facilities</i> , Goal 10, above.
Policy 14: All solid waste disposal facilities shall designate a buffer around the permitted disposal area as defined by the Map Code 3.4 land use designation.	Consistent	The project includes modifications to an existing landfill facility and a new composting facility within a portion of the existing landfill site (Site A). These facilities would be surrounded by a 1,320-foot buffer in accordance with Map Code 3.4.1 (Solid Waste Disposal Facility Buffer). The project would be consistent with this policy.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
Measure B: Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the time of approval of the Final Map. This implementation can be effectuated by the formation of a County work group.	Consistent	See 1.4 <i>Public Services and Facilities</i> , Goal 1, above.
Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.	Consistent	Project effects related to utilities are discussed in Section 4.17, <i>Utilities and Service Systems</i> , of this EIR. The project would result in less-than-significant impacts to utilities and service systems. Furthermore, the project would include the development of a bioenergy facility designed to produce approximately 3 MW of power that would be delivered to the grid, reducing dependence on fossil fuel-based energy.
Measure D: Involve utility providers in the land use and zoning review process.	Consistent	See 1.4, <i>Public Services and Facilities, Policy 3</i> , above. In addition, as described in Chapter 2, <i>Introduction</i> , of this EIR, CEQA requires lead agencies, in this case Kern County, to solicit and consider input from other interested agencies, citizen groups, and individual members of the public, including utility providers.
Measure L: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.	Consistent with implementation of Mitigation Measure MM 4.14-1 (COM, BEF)	Impacts to fire protection services are evaluated in Section 4.14, <i>Public Services</i> , of this EIR. As described therein, the project would result in less-than-significant impacts on fire protection services with the implementation of Mitigation Measure MM 4.14-1 (COM, BEF), which requires the project proponent to pay development impact fees to compensate for any increase in service demand by the proposed project. Therefore, the project would not substantially increase the need for new fire department staff or new facilities and impacts related to fire protection services would be less than significant. Thus, new or physically altered Kern County Fire Department facilities would not be required to accommodate the project.
1.8 Industrial		
Goal 3: Ensure compatibility with land use designations such as residential, commercial, or other land uses that may be affected by such activities.	Consistent	The project sites are zoned as Exclusive Agriculture (A) and have a General Plan land use designation of 3.4 (Site A) and 3.4.1 (Site B). The project is in a rural area surrounded by undeveloped and industrial land associated with the Lost Hills Oilfield. No commercial or residential land uses are located in the project vicinity. The project would be consistent with surrounding development. The project would be consistent with this policy.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
Policy 1: Locations for new industrial activities shall be provided with adequate infrastructure (water, sewage disposal systems, roads, drainage, etc.) to minimize effects on County services.	Consistent	See 1.4 <i>Public Facilities and Services</i> , Goal 1 and Policy 11, above.
Policy 5: Provide clustering of new industrial development adjacent to existing industrial uses and along major transportation corridors.	Consistent	The proposed bioenergy facility would be sited adjacent to the Lost Hills Environmental Industrial Landfill and Holloway Road, a two-lane local roadway that provides access to oil fields and a number of waste facilities.
Policy 6: Encourage upgrading the visual character of existing industrial areas through the use of landscaping, screening, or buffering.	Potentially inconsistent	The existing landfill and proposed composting facility would be surrounded by a 1,320-foot buffer in accordance with Map Code 3.4.1 (Solid Waste Disposal Facility Buffer) and would, therefore, be consistent with this policy. The proposed bioenergy facility would be sited within an existing equipment yard for an existing gypsum mine. The bioenergy facility would be sited adjacent to Holloway Road and would be visible to motorists. Aesthetic impacts are described in more detail in Section 4.1, <i>Aesthetics</i> , of the EIR. The project does not propose landscaping, screening, or buffering around the bioenergy facility and would not upgrade the visual character of the project site or surrounding area. As such, the project would be potentially inconsistent with this policy.
1.9 Resource		
Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.	Consistent	The project sites are zoned as A (Exclusive Agriculture). According to <i>Kern County Zoning Ordinance</i> Section 19.12.030 H, bioenergy facilities and sanitary landfills are permitted uses within the A Zone District subject to the approval of a CUP. General Plan designations for Site A and Site B are 3.4 (Solid Waste Disposal Facility) and 3.4.1 (Solid Waste Disposal Facility Buffer Zone), respectively. The project is located within an area that is designated as urban/built-up land by the California Department of Conservation and is on an existing waste disposal site (Site A) and an equipment yard for an existing gypsum mine (Site B). Converting these sites to new uses would not impair surrounding mineral, petroleum, or agricultural resources. The project would not involve additional changes in the existing environment beyond those described in this EIR and would not directly lead to other projects that would impair petroleum, agriculture, rangeland, or mineral resources. Therefore, the proposed project would be consistent with this goal.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
Goal 2: Protect areas of important mineral, petroleum, and agricultural resource potential for future use.	Consistent	Site A has been operating under an approved CUP and SWFP and is not considered an important mineral, petroleum, and agricultural resource area. Site B is an existing equipment staging and storage area for the H.M. Holloway Gypsum Mine and is not considered an important mineral, petroleum, and agricultural resource area. The project would be consistent with this policy.
Goal 3: Ensure the development of resource areas minimize effects on neighboring resource lands.	Consistent	Construction and operation of the composting facility on Site A would occur on an existing landfill site. This site abuts an area currently used for surface mining activities at H.M. Holloway Gypsum Mine. Existing access routes would be used to access the facility. Construction and operation of the bioenergy facility on Site B would occur within an existing equipment storage area associated with the H.M. Holloway Gypsum Mine. Existing access routes would be used to access the facility. Therefore, the project would not affect neighboring lands and is consistent with this policy.
Goal 4: Encourage safe and orderly energy development within the County, including research and demonstration projects, and to become actively involved in the decision and actions of other agencies as they affect energy development in Kern County.	Consistent	The project would include a bioenergy facility designed to produce approximately 3 MW of energy. The location of the site would ensure a safe and orderly development of the facility. Additionally, the NOP/IS of this EIR was sent to Federal and State agencies requesting their input to ensure that appropriate information about the project site were being gathered. Similarly, this EIR will also be circulated to these agencies, and staff will have the opportunity to comment on the environmental analyses. Therefore, Kern County is complying with this goal for the project.
Goal 5: Conserve prime agriculture lands from premature conversion.	Consistent	The project sites consist of disturbed land associated with the H.M. Holloway Gypsum Mine and an existing landfill facility. No agricultural activities occur within the project sites. The project would be consistent with this policy.
Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.	Consistent	The project includes development of a bioenergy facility. The project would develop a clean energy source that would reduce fossil fuel emissions, thereby reducing GHG emissions and protecting the environment. The project would be consistent with this policy.
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	See 1.9 Resource, Goal 1 and Goal 3, above.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
<p>Policy 2: In areas with a resource designation on the General Plan map, only industrial activities which directly and obviously relate to the exploration, production, and transportation of the particular resource will be considered to be consistent with this General Plan.</p>	<p>Consistent</p>	<p>See 1.9 Resource, Goal 1 and Goal 3, above.</p>
<p>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.</p>	<p>Consistent</p>	<p>As described in Section 4.9, <i>Hydrology and Water Quality</i>, the proposed waste stream expansions and composting facility would not alter natural drainage areas or impede or redirect flood flows. Stormwater would be controlled on-site through development of the proposed retention pond. The project must also comply with the requirements of the SWRCB Construction General Permit under the NPDES program, which includes preparation of a SWPPP. Through prescribing BMPs, the objective of the SWPPP is to reduce or eliminate sediment or other pollutants from entering stormwater runoff and to prevent erosion and sedimentation from occurring during construction. All temporary erosion control measures required by the Kern County Grading Code (Chapter 17.28.140) would be included as BMPs in the SWPPP. The proposed bioenergy facility would result in approximately 6 acres of new impervious surfaces created within the project site and would include the construction of a new stormwater drainage system. Compliance with the NPDES program and the Kern County Grading Code would ensure that substantial erosion or siltation during construction does not occur. The project would be consistent with this policy.</p>
<p>Policy 12: Areas identified by the Natural Resource Conservation Service (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.</p>	<p>Consistent</p>	<p>See 1.9 Resource, Goal 5, above</p>
<p>Policy 14: Emphasize conservation and development of identified mineral deposits.</p>	<p>Consistent</p>	<p>As described in Section 4.11, <i>Mineral Resources</i>, mining and petroleum extraction activities occur within the project vicinity. However, the project would not interfere with mining or petroleum extraction activities and would not result in the loss of land designated for mineral resources. Additionally, the project sites are not designated as a Mineral Resource Zone (MRZ).</p>
<p>Policy 25: Discourage incompatible land use adjacent to Map Code 8.4 (Mineral and Petroleum) areas.</p>	<p>Consistent</p>	<p>See 1.9 Resource, Policy 14, above.</p>

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
Measure H: Use the California Geological Survey's latest maps to locate mineral deposits until the regional and Statewide importance mineral deposits map has been completed, as required by the Surface Mining and Reclamation Act.	Consistent	See 1.9 Resource, Policy 14, above
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 <i>Kern County Zoning Ordinance</i> designates the project site as being within the A (Exclusive Agriculture) zone district. The composting facility would operate under an existing CUP and the bioenergy facility would be subject to a new CUP. As such, with approval of the CUP, the project would be consistent with applicable land use policies and regulations. Additionally, the project would not be located in an active oilfield or mineral extraction area.
1.10 General Provisions		
Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.	Consistent	The project would add approximately 90 temporary workers and 20 full-time workers. These opportunities would not induce substantial population growth. The project would develop a bioenergy facility and composting facility within existing disturbed areas to minimize effects to the natural environment. The facilities would not be located in a hazardous area. The project would be consistent with this goal.
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	See 1.4 Public Services, Goal 1 and Policy 11, above.
Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by California Environmental Quality Act (CEQA) 64 documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.	Consistent	Public service impacts are evaluated in Section 4.14, <i>Public Services</i> . This EIR serves to comply with this policy.
Policy 16: The developer shall assume full responsibility for costs incurred in service extensions or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.	Consistent	See 1.4 Public Services, Goal 1, above.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
<p>Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the Environmental Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterizes the quality of upper groundwater in the project vicinity and evaluation of the extent to which, if any, the proposed use of alternative septic systems will adversely impact groundwater quality. If the evaluation indicates that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic system is installed, the applicant shall be required to supply sewage collection, treatment and disposal facilities.</p>	<p>Consistent with implementation of Mitigation Measure MM 4.17-1 (BEF)</p>	<p>As described in Section 4.17, <i>Utilities and Service Systems</i>, of this EIR, the project's wastewater needs are served by private septic systems located on-site. The on-site wastewater treatment and disposal facilities will be required to comply with the minimum standards for design through the California Building Code (CBC) (CCR Title 24), which includes standards for septic tanks and seepage pits on Chapter 8.60, as well as the Kern County New Development Standards, to ensure that soils are capable of adequately supporting the use of on-site wastewater treatment and disposal facilities. Final review of the project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable Federal, State, and local regulations, would ensure that the project would not pose significant environmental or public health and safety hazards. Mitigation Measure MM 4.17-1 (BEF) would require the project proponent to coordinate with the Kern County Public Health Services Department, Environmental Health Division for approval of the new septic and wastewater facilities.</p>
<p>1.10.2 Air Quality</p>		
<p>Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.</p>	<p>Consistent with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM)</p>	<p>As discussed in Section 4.2, <i>Air Quality</i>, the project includes all feasible mitigation measures to reduce significant adverse air quality impacts. With the implementation of such measures, project impacts on air quality would be reduced to less-than-significant levels. The project would be consistent with this policy.</p>
<p>Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that:</p> <p>(a) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and</p>	<p>Consistent with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6</p>	<p>See 1.10.2 <i>Air Quality, Policy 18</i>, above. This EIR serves to comply with this policy</p>

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
<p>(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.</p>	<p>(COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM)</p>	
<p>Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.</p>	<p>Consistent with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), and MM 4.2-4 (COM, BEF)</p>	<p>As discussed in Section 4.2, <i>Air Quality</i>, implementation of Mitigation Measures Consistent with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), and MM 4.2-4 (COM, BEF) would reduce fugitive dust emissions during construction and operation in compliance with the adopted rules and regulations of the San Joaquin Valley Air Pollution Control District (SJVAPCD) on ministerial permits. The project would be consistent with this policy.</p>
<p>Policy 21: The County shall support air districts' efforts to reduce PM₁₀ and PM_{2.5} emissions.</p>	<p>Consistent with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), and MM 4.2-4 (COM, BEF)</p>	<p>See 1.10.2 <i>Air Quality, Policy 20</i>, above. Air quality impacts are evaluated in Section 4.2, <i>Air Quality</i>, of this EIR.</p>
<p>Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, State, and local standards.</p>	<p>Consistent with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM)</p>	<p>Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i>, of this EIR. Consistent with this policy, the project would have less-than-significant impacts on air quality with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM) and less-than-significant impacts related to GHG emissions. However, cumulative air quality impacts during construction of the project would be significant and unavoidable. The project would be in compliance with all applicable SJVAPCD rules and regulations.</p>

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
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 4.2, <i>Air Quality</i> , of this EIR. Consistent with this measure, the necessary discretionary permits shall be referred to the SJVAPCD for review and comment.
Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to: a. Minimizing idling time. b. Electrical overnight plug-ins.	Consistent with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM)	Air quality impacts are evaluated in Section 4.2, <i>Air Quality</i> , of this EIR. Consistent with this implementation measure, implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM) would require diesel exhaust reduction strategies.
Measure H: Discretionary projects may use one or more of the following to reduce air quality effects: a. Pave dirt roads within the development. b. Pave outside storage areas. c. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans. d. Use of alternative fuel fleet vehicles or hybrid vehicles. e. Use of emission control devices on diesel equipment. f. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces. g. Provide bicycle lockers and shower facilities on site. h. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86). i. The use and development of park and ride facilities in outlying areas. j. Other strategies that may be recommended by the local Air Pollution Control Districts.	Consistent with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM)	Air quality impacts are evaluated in Section 4.2, <i>Air Quality</i> , of this EIR. Consistent with this implementation measure, implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM) would further reduce adverse air quality effects.
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 Mitigation Measures MM 4.2-1 (COM, BEF,	Air quality impacts are evaluated in Section 4.2, <i>Air Quality</i> , of this EIR. As discussed in that section, implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM,

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
	LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM)	BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM) would further reduce PM ₁₀ and PM _{2.5} emissions during construction and operation.
1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation		
Policy 25: The County will promote the preservation of cultural and historic resources which provide ties with the past and constitute a heritage value to residents and visitors.	Consistent with implementation of Mitigation Measures MM 4.4-1 (BEF) though MM 4.4-4 (COM, BEF)	Cultural resource impacts are evaluated in Section 4.4, <i>Cultural Resources</i> , of this EIR. This EIR serves to comply with this policy and includes mitigation measures to promote the preservation of cultural and historic resources where necessary.
Measure K: Coordinate with the California State University, Bakersfield’s Archaeology Inventory Center.	Consistent	Cultural resource impacts are evaluated in Section 4.4, <i>Cultural Resources</i> , of this EIR. As part of the cultural resources analysis, a cultural resources records search was conducted by staff at the Southern San Joaquin Valley Information Center (SSJVIC) at California State University, Bakersfield (CSUB). Consistent with this measure, copies of reports will be provided to the Kern County Planning and Natural Resources Department and to the SSJVIC at CSUB.
Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with the California Environmental Quality Act (CEQA).	Consistent with implementation of Mitigation Measures MM 4.4-1 (BEF) though MM 4.4-4 (COM, BEF)	Cultural resource impacts are evaluated in Section 4.4, <i>Cultural Resources</i> , of this EIR. Consistent with this measure, impacts to archaeological and historical resources are evaluated in accordance with CEQA. This EIR serves to comply with this policy.
Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.	Consistent with implementation of Mitigation Measures MM 4.6-10 (BEF), MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF)	Paleontological resource impacts are evaluated in Section 4.6, <i>Geology and Soils</i> , of this EIR. Implementation of Mitigation Measures MM 4.6-10 (BEF), MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF) would reduce potential impacts to paleontological resources through hiring a qualified paleontologist to monitor all ground-disturbing activity and document and implement measures as needed. These mitigation measures would address the preservation of paleontological resources.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
<p>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.</p>	<p>Consistent</p>	<p>Tribal cultural resource impacts are evaluated in Section 4.16, <i>Tribal Cultural Resources</i>, of this EIR. Consistent with this measure, notification regarding the project would be accomplished in accordance with the established procedures for discretionary projects and CEQA documents</p>
<p>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.</p>	<p>Consistent with implementation of Mitigation Measure MM 4.4-1 (BEF)</p>	<p>Cultural resources impacts are evaluated in Section 4.4, <i>Cultural Resources</i>, of this EIR. This EIR serves to comply with this implementation measure and includes Mitigation Measure MM 4.4-1 (BEF), which would require consultation with the Native American monitor(s) to conduct a Cultural Resources Sensitivity Training for all personnel working on the project.</p>
<p>1.10.5 Threatened and Endangered Species</p>		
<p>Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and federal laws.</p>	<p>Consistent with implementation of Mitigation Measures MM 4.1-1 (COM, BEF, LDF) and MM 4.3-1 (COM, BEF) through MM 4.3-13 (COM)</p>	<p>Biological resources impacts are evaluated in Section 4.3, <i>Biological Resources</i>, of this EIR. This EIR serves to comply with this policy and reduce potential impacts with mitigation. Additionally, the project would be developed and operated in accordance with all Federal, State, and local laws pertaining to the preservation of sensitive species.</p>
<p>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.</p>	<p>Consistent with implementation of Mitigation Measures MM 4.3-3 (COM, BEF), MM 4.3-4 (COM), MM 4.3-5 (COM), MM 4.3-6 (COM), MM 4.3-9 (COM), MM 4.3-11 (COM), MM 4.3-12 (COM), and MM 4.3-13 (COM)</p>	<p>Biological resources impacts are evaluated in Section 4.4, <i>Biological Resources</i>, of this EIR. As part of the CEQA process, relevant Federal and State agencies were contacted to ensure that appropriate information about the project site was being collected. Specifically, the NOP/IS for this EIR was sent to Federal and State agencies requesting their input on biological resources. Similarly, this EIR will also be circulated to these agencies, and staff will have the opportunity to comment on the biological resources evaluation. Additionally, the project includes Mitigation Measures MM 4.3-3 (COM, BEF), MM 4.3-4 (COM), MM 4.3-5 (COM), MM 4.3-6 (COM), MM 4.3-9 (COM), MM 4.3-11 (COM), MM 4.3-12 (COM), and MM 4.3-13 (COM), which require agency coordination during construction of the project under specified circumstances.</p>
<p>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.</p>	<p>Consistent with implementation of Mitigation Measures MM 4.3-3 (COM, BEF), MM 4.3-4 (COM), MM 4.3-5 (COM), MM 4.3-6 (COM), and MM 4.3-9 (COM)</p>	<p>Biological resource impacts are evaluated in Section 4.3, <i>Biological Resources</i>, of this EIR. Implementation of Mitigation Measures MM 4.3-3 (COM, BEF), MM 4.3-4 (COM), MM 4.3-5 (COM), MM 4.3-6 (COM), MM 4.3-9 (COM), MM 4.3-11 (COM), MM 4.3-12 (COM), and MM 4.3-13 (COM) would increase cooperative efforts with Federal, State, and local agencies to</p>

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
	(COM), MM 4.3-11 (COM), MM 4.3-12 (COM), and MM 4.3-13 (COM)	support threatened and endangered plants and wildlife. In addition, there is no adopted habitat conservation plan, natural community conservation plan or other approved State, regional or local habitat conservation plan protecting biological resources on the project site.
Policy 31: Under the provisions of the California Environmental Quality Act (CEQA), 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 (Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report) is prepared.	Consistent	See 1.10.5 <i>Threatened and Endangered Species, Policy 28</i> , above.
Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.	Consistent	Biological resources impacts are evaluated in Section 4.3, <i>Biological Resources</i> , of this EIR. Consistent with this measure, the evaluation of impacts to biological resources was performed in accordance with CEQA.
Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.	Consistent with implementation of Mitigation Measures MM 4.3-3 (COM, BEF), MM 4.3-4 (COM), MM 4.3-5 (COM), MM 4.3-6 (COM), MM 4.3-9 (COM), MM 4.3-11 (COM), MM 4.3-12 (COM), and MM 4.3-13 (COM)	Biological resource impacts are evaluated in Section 4.3, <i>Biological Resources</i> , of this EIR. Consistent with this measure, the project would implement mitigation measures that require consultation with the resource agencies, including Mitigation Measures MM 4.3-3 (COM, BEF), MM 4.3-4 (COM), MM 4.3-5 (COM), MM 4.3-6 (COM), MM 4.3-9 (COM), MM 4.3-11 (COM), MM 4.3-12 (COM), and MM 4.3-13 (COM). Kern County has and will respond to all comments from reviewing agencies during the CEQA process.
1.10.6 Surface and Groundwater		
Policy 34: Ensure that water quality standards are met for existing users and future development.	Consistent with implementation of Mitigation Measures MM 4.6-7 (COM, BEF) and MM 4.8-3 (COM, BEF)	Water quality impacts are evaluated in Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR. As described therein, the project would implement stormwater control BMPs as part of the SWPPP and would implement a Spill Prevention Control and Countermeasures Response Plan to reduce impacts to water quality resulting from accidental spills. The project would be consistent with this policy.
Policy 41: Review development proposals to ensure adequate water is available to accommodate projected growth.	Consistent	The project would add approximately 90 temporary workers and 20 full-time workers. These opportunities would not induce substantial population growth. As described in Section 4.17, <i>Utilities and Service Systems</i> , existing infrastructure has sufficient capacity to supply construction and operation-related water demand. The project would be consistent with this policy.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
Policy 43: Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.	Consistent	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 Mitigation Measures MM 4.6-7 (COM, BEF) and MM. 4.8-3 (COM, BEF)	As described in Section 4.9, <i>Hydrology and Water Quality</i> , the project would not substantially change existing hydrological patterns. Mitigation Measures MM 4.6-7 (COM, BEF) and MM. 4.8-3 (COM, BEF) would mitigate potential adverse effects to water quality. The project would be consistent with this policy.
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. iii. Encouraging the retrofitting of existing development with water conserving devices.	Consistent	See 1.4 <i>Public Facilities and Services</i> , Goal 5, above.
1.10.7 Light and Glare		
Policy 47: Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.	Consistent with implementation of Mitigation Measures MM 4.1-1 (COM, BEF, LDF)	Aesthetic impacts are evaluated in Section 4.1, <i>Aesthetics</i> , of this EIR. As described therein, the project would include a lighting plan that would be developed and submitted to Kern County to minimize night-sky impacts associated with the proposed project. Lighting would be installed in compliance with <i>Kern County Zoning Ordinance</i> Sections 19.80.030 and 19.81.040 to minimize potential point-source lighting visibility. The project would be consistent with this policy
Policy 48: Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.	Consistent	See 1.10.7 <i>Light and Glare</i> , Policy 47, above.
Measure AA: The County shall utilize CEQA Guidelines and the provisions of the Zoning Ordinance to minimize the impacts of light and glare on adjacent properties and in rural undeveloped areas.	Consistent	See 1.10.7 <i>Light and Glare</i> , Policy 47, above.
Kern County General Plan, Chapter 2. Circulation Element		
2.1 Introduction		
Objective 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.	Consistent	See 1.3 <i>Physical and Environmental Constraints</i> , Goal 1, above.
Objective 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	Consistent	As described in Section 4.15, <i>Transportation and Traffic</i> , the project would not degrade LOS below LOS C. The project would be consistent with this policy.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
Smart Growth policies that encourage efficient multi-modal movements.		
2.3 Highways, 2.3.3 Highway Plan		
Goal 5: Maintain a minimum Level of Service (LOS) D.	Consistent	As described in Section 4.15, <i>Transportation and Traffic</i> , the project would not degrade LOS below LOS C. The project would be consistent with this policy.
Policy 1: Development of roads within the County shall be in accordance with the Circulation Diagram Map. The charted roads are usually on section and mid-section lines. This is because the road centerline can be determined by an existing survey.	Consistent	Section 4.15, <i>Transportation and Traffic</i> , provides a discussion of Kern County circulation consistency. Consistent with this policy, all road improvements would be completed per California Department of Transportation (Caltrans) and/or County code and regulations.
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	Traffic impacts are evaluated in Section 4.15, <i>Transportation and Traffic</i> , of this EIR. Consistent with this measure, the project would be in compliance with the road network policies and would implement the Kern County Development Standards as they relate to road standards and planning requirement
2.3 Highways, 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	Traffic impacts are evaluated in Section 4.15, <i>Transportation and Traffic</i> , of this EIR. Consistent with this measure, the project would be in compliance with the road network policies and would implement the Kern County Development Standards as they relate to road standards and planning requirements.
Policy 2: The County should monitor development applications as they relate to traffic estimates developed for this plan. Mitigation is required if development causes affected roadways to fall below Level Of Service (LOS) D. However, development proposed as part of a Community Plan or Specific Plan which utilizes Smart Growth Policies that encourage efficient multi-modal movements is allowed the flexibility to assess traffic and safety impacts through other means than Level Of Service (LOS). Utilization of the CEQA process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space and Conservation Element to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build off-site transportation facilities. These enhancements	Consistent with Implementation of Mitigation Measure MM 4.15-3 (COM, BEF)	Traffic impacts are evaluated in Section 4.15, <i>Transportation and Traffic</i> , of this EIR. Consistent with this policy, the project would not degrade below LOS C for all roads throughout the County. Additionally, implementation of Mitigation Measure MM 4.15-3 (COM, BEF) would require the preparation of a Construction Traffic Control Plan to be reviewed and approved by Kern County, which would further reduce impacts to traffic and transportation.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
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.	Consistent with implementation of Mitigation Measures MM 4.15-1 (COM) and MM 4.15-2 (COM)	Traffic impacts are evaluated in Section 4.15, <i>Transportation and Traffic</i> , of this EIR. Implementation of Mitigation Measures MM 4.15-1 (COM) and MM 4.15-2 (COM) would require construction of an asphalt concrete paved private road approach along the Holloway Road Frontage.
Policy 5: When there is a legal lot of record, improvement of access to County, city or State roads will require funding by sources other than the County. Funding could be by starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.	Consistent with implementation of Mitigation Measures MM 4.15-1 (COM) and MM 4.15-2 (COM)	Traffic impacts are evaluated in Section 4.15, <i>Transportation and Traffic</i> , of this EIR. Implementation of Mitigation Measures MM 4.15-1 (COM) and MM 4.15-2 (COM) would require construction of an asphalt concrete paved private road approach along the Holloway Road Frontage.
Measure C: Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.	Consistent	Traffic impacts are evaluated in Section 4.15, <i>Transportation and Traffic</i> , of this EIR. Consistent with this policy, the project would comply with the requirements of the <i>Kern County Zoning Ordinance</i> , Land Division Ordinance, and Development Standards.
2.3 Highways, 2.3.10 Congestion Management Programs		
Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern Council of Government's Congestion Management Program.	Consistent with Implementation of Mitigation Measure MM 4.15-3 (COM, BEF)	Traffic impacts are evaluated in Section 4.15, <i>Transportation and Traffic</i> , of this EIR. Consistent with this policy, the project would not degrade below LOS C for all roads throughout the County. Additionally, implementation of Mitigation Measure MM 4.15-3 (COM, BEF) would require the preparation of a Construction Traffic Control Plan to be reviewed and approved by Kern County, which would further reduce impacts to traffic and transportation.
Goal 2: To coordinate congestion management and air quality requirements and avoid multiple and conflicting requirements.	Consistent	Traffic impacts are evaluated in Section 4.15, <i>Transportation and Traffic</i> , of this EIR. Consistent with this policy, the project would comply with the requirements of the <i>Kern County Zoning Ordinance</i> , Land Division Ordinance, and Development Standards and would not conflict with Kern COG's Congestion Management Plan (CMP).

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
Policy 1: Pursuant to California Government Code § 65089(a), Kern County has designated Kern Council of Governments as the County's Congestion Management Agency (CMA).	Consistent	See 2.3.10 <i>Congestion Management Program</i> , Goal 1 and Goal 2, above.
Policy 2: The Congestion Management Agency is responsible for developing, adopting, and annually updating a Congestion Management Plan. The Plan is to be developed in consultation with, and with the cooperation of, the regional transportation agency (also Kern Council of Governments), regional transportation providers, local governments, Caltrans, and the air pollution control district.	Consistent	See 2.3.10 <i>Congestion Management Program</i> , Goal 1 and Goal 2, above. Traffic impacts are evaluated in Section 4.15, <i>Transportation and Traffic</i> , of this EIR. Consistent with this policy, the project would not conflict with Kern COG's CMP.
Measure A: Kern County Council of Governments should request the proper consultation from County of Kern to develop and update the proper congestion management program.	Consistent	See 2.3.10 <i>Congestion Management Program</i> , Goal 1 and Goal 2, above.
Measure B: The elements within the Kern Congestion Management Program are to be implemented by each incorporated city and the County of Kern. Specifically, the land use analysis program, including the preparation and adoption of deficiency plans is required. Additionally, the adoption of trip reduction and travel demand strategies are required in the Congestion Management Program.	Consistent	See 2.3.10 <i>Congestion Management Program</i> , Goal 1 and Goal 2, above.
2.5.1 Trucks and Highways		
Goal 1: Provide for Kern County's heavy truck transportation in the safest way possible.	Consistent with implementation of Mitigation Measures MM 4.15-1 (COM), MM 4.15-2 (COM), and MM 4.15-3 (COM, BEF)	Traffic impacts are evaluated in Section 4.15, <i>Transportation and Traffic</i> , of this EIR. Consistent with this policy, the project would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards, which would ensure the provision of heavy truck transportation resulting from project implementation in the safest way feasible. Implementation of Mitigation Measures MM 4.15-1 (COM) and MM 4.15-2 (COM) would require construction of an asphalt concrete paved private road approach along the Holloway Road Frontage. Additionally, implementation of Mitigation Measure MM 4.15-3 (COM, BEF) would require the preparation of a Construction Traffic Control Plan to be reviewed and approved by Kern County, which would further reduce impacts to traffic and transportation.
Goal 2: Reduce potential overweight trucks.	Consistent	See 2.5.1, <i>Trucks and Highways</i> , Goal 1, above.
Goal 3: Use State Highway System improvements to prevent truck traffic in neighborhoods	Consistent	See 2.5.1, <i>Trucks and Highways</i> , Goal 1, above.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
Policy 1: California Department of Transportation (Caltrans) should be made aware of the heavy truck activity on Kern County's roads.	Consistent	As discussed in Section 4.15, <i>Transportation and Traffic</i> , of this EIR, the project would not include a design feature or utilize vehicles with incompatible uses that would create a hazard on the roadways surrounding the project site. The need for and number of escorts, California Highway Patrol escorts, for oversized loads as well as the timing of transport, would be at the discretion of Caltrans and Kern County, and would be detailed in respective oversize load permits.
Policy 2: Start a program that monitors truck traffic operations.	Consistent with implementation of Mitigation Measure MM 4.15-3 (COM, BEF)	Consistent with this policy, as stated in Section 4.15, <i>Transportation and Traffic</i> , of this EIR, with implementation of Mitigation Measure MM 4.15-3 (COM, BEF), a Construction Traffic Control Plan would be submitted to Kern County for review and approval.
Policy 3: Promote a monitoring program of truck lane pavement condition.	Consistent	See 2.5.1, Trucks and Highways, Policy 2, above.
2.5 Other Modes, 2.5.4 Transportation of Hazardous Materials		
Goal 1: Reduce risk to public health from transportation of hazardous materials.	Consistent	Section 4.8, <i>Hazards and Hazardous Materials</i> , provides a discussion of hazardous materials, transportation, and existing regulatory requirements of the California Vehicle Code that pertain to transport of hazardous materials and wastes. This EIR serves to comply with this 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.	Consistent	See 2.5.4 <i>Transportation of Hazardous Materials</i> , 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	See 2.5.4 <i>Transportation of Hazardous Materials</i> , Goal 1, above.
Implementation 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	See 2.5.4 <i>Transportation of Hazardous Materials</i> , Goal 1, above.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
Kern County General Plan, 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	Noise impacts, sensitive receptors, and Kern County thresholds are evaluated in Section 4.12, <i>Noise</i> , of this EIR. As described therein, no sensitive receptors are located in the project vicinity, and noise impacts are considered less than significant. The project would also incorporate Mitigation Measure MM 4.12-1 (COM, BEF) to reduce noise generated during construction activities. The project would be consistent with this goal.
Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.	Consistent	This section of the EIR discusses the land uses proposed by the project. As discussed in this section, the project would be consistent with existing land use designations of the project site.
Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.	Consistent	See 3.2 <i>Noise Element, Goal 1</i> , above.
Policy 2: Require noise level criteria applied to all categories of land uses to be consistent with the recommendations of the California Division of Occupational Safety and Health (DOSH).	Consistent	See 3.2 <i>Noise Element, Goal 1</i> , above.
Policy 3: Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise.	Potentially inconsistent	As described in Section 4.12, <i>Noise</i> , the closest sensitive receptor to the project site is a residence located approximately 2.3 miles east of the project site. The project would incorporate Mitigation Measure MM 4.12-1 (COM, BEF) to reduce potential noise impacts associated with the project site. However, the project would not incorporate vegetative landscaping as part of the project design or mitigation measures. As such, the project would be potentially inconsistent with this policy.
Policy 4: Utilize good land use planning principles to reduce conflicts related to noise emissions.	Consistent	See 3.2 <i>Noise Sensitive Areas, Goal 1</i> , above.
Policy 7: Employ the best available methods of noise control.	Consistent	See 3.2 <i>Noise Sensitive Areas, Goal 1</i> , above.
Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.	Consistent	This section of the EIR discusses the land uses proposed by the project. As discussed in this section, the project would be consistent with existing land use and zoning designations of the project site.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
<p>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.</p>	<p>Consistent</p>	<p>Consistent with this measure, the project will be reviewed for conformance with the policies outlined in this element.</p>
<p>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}.</p>	<p>Consistent</p>	<p>See 3.2 <i>Sensitive Noise Areas, Goal 1</i> and <i>Measure A</i>, above.</p>
<p>Measure G: At the time of any discretionary approval, such as a request for a General Plan Amendment, zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall:</p> <ul style="list-style-type: none"> a. Be the responsibility of the applicant. b. Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics. c. Be subject to the review and approval of the Kern County Planning Department and the Environmental Health Services Department. All recommendations therein shall be complied with prior to final approval of the project. 	<p>Consistent</p>	<p>See 3.2 <i>Noise Sensitive Areas, Goal 1</i>, above.</p>
<p>Measure I: Noise analyses shall include recommended mitigation, if required, and shall:</p> <ul style="list-style-type: none"> a. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions. b. Include estimated noise levels, in terms of CNEL, for existing and projected future (10–20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element. c. Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element. d. Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a rationale for acceptance of the project must be provided. 	<p>Consistent</p>	<p>Consistent with this measure, a noise assessment was conducted for the project and is referenced in Section 4.13, <i>Noise</i>, of this EIR. The analysis estimated noise levels associated with construction and operational activities and compared them to noise standards established in the <i>Kern County General Plan</i>. The project incorporates Mitigation Measure MM 4.12-1 (COM, BEF) to reduce construction-related noise impacts.</p>

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
Measure J: Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.	Consistent	Consistent with this measure, the recommendations and requirements imposed pursuant to the findings of the acoustical analysis would be included with project implementation.
Kern County General Plan, Chapter 4. Safety Element		
4.1 Introduction		
Goal 1: Minimize injuries and loss of life and reduce property damage.	Consistent with implementation of Mitigation Measure MM 4.8-5 (COM, BEF)	Consistent with this goal, the project would be required to comply with adopted safety regulations, such as the Kern County Fire Code, California Building Code, and Kern County Ordinance Code. The project sites are not located in an area of high fire hazard severity and the project would not exacerbate the risk of wildfire. Additionally, the project would be required to implement Mitigation Measure MM 4.8-5 (COM, BEF), which would require the facility's existing Report of Disposal Site Information and Emergency Preparedness Plan to be updated to include additional measures associated with operation of the new composting and bioenergy facilities. See Sections 4.8, <i>Hazards and Hazardous Materials</i> ; 4.14, <i>Public Services</i> ; and 4.18, <i>Wildfire</i> , of this EIR. The project would comply with this goal.
4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint		
Measure A: All hazards (geologic, fire, and flood) should be considered whenever a Planning Commission or Board of Supervisor's action could involve the establishment of a land use activity susceptible to such hazards.	Consistent	Section 4.6, <i>Geology and Soils</i> , of this EIR discusses potential geologic hazards; Section 4.9, <i>Hydrology and Water Quality</i> , of this EIR discusses potential flood hazards; and Section 4.18, <i>Wildfire</i> , of this EIR discusses potential fire hazards as a result of project implementation. Consistent with this measure, all hazards have been considered as part of this analysis.
Measure F: The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by FEMA, shall be used as a source document for preparation of environmental documents pursuant to CEQA, evaluation of project proposals, formulation of potential mitigation, and identification of specific actions that could, if implemented, mitigate impacts from future disasters and other threats to public safety.	Consistent	Consistent with this policy, the project would not include development for human occupancy or be located near an active earthquake fault.
4.3 Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure		
Policy 1: The County shall require development for human occupancy to be placed in a location away from an active earthquake fault in order to minimize safety concerns.	Consistent	Consistent with this policy, the project would not include development for human occupancy, and would not be located near an active earthquake fault.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
Measure B: Require geological and soils engineering investigations in identified significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.	Consistent	See 1.3 <i>Physical and Environmental Constraints, Measure D</i> , above.
Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.	Consistent	See 1.3 <i>Physical and Environmental Constraints, Measure D</i> , above.
4.5 Landslides, Subsidence, Seiche, and Liquefaction		
Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.	Consistent with implementation of Mitigation Measures MM 4.2-4 (COM, BEF), MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), and MM 4.6-9 (BEF)	Impacts related to geologic hazards are discussed in Section 4.6, <i>Geology and Soils</i> , of this EIR. The project sites are not located in an area subject to substantial landslide, subsidence, or liquefaction. The proposed project would be designed to be consistent with the Uniform Building Code and California Building Code, and implementation of Mitigation Measures MM 4.2-4 (COM, BEF), MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), and MM 4.6-9 (BEF) would reduce potential erosion impacts and ensure the proposed project is consistent with this policy.
4.6 Wildland and Urban Fire		
Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.	Consistent with implementation of Mitigation Measures MM 4.8-1 (COM, BEF) and MM 4.14-1 (COM, BEF)	Impacts to emergency services and facilities are discussed in Section 4.14, <i>Public Services</i> , of this EIR. Implementation of Mitigation Measure MM 4.8-1 (COM, BEF) and payment of the required development impact fees would ensure compliance with this policy.
Policy 3: The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.	Consistent with implementation of Mitigation Measure MM 4.8-6 (COM, BEF, LDF)	The project would not interfere with or prohibit Kern County's ability to meet this policy. See Section 4.8, <i>Hazards and Hazardous Materials</i> ; Section 4.14, <i>Public Services</i> ; and Section 4.18, <i>Wildfire</i> , of this EIR.
Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.	Consistent with implementation of Mitigation Measures MM 4.15-1 (COM), MM 4.15-2 (COM), and MM 4.15-3 (COM, BEF)	Section 4.15, <i>Transportation and Traffic</i> , of this EIR includes Mitigation Measures MM 4.15-1 (COM), MM 4.15-2 (COM), and MM 4.15-3 (COM, BEF), which would require the approval of a Construction Traffic Control Plan, encroachments, and or other necessary permits by Caltrans and/or the Kern County Public Works Department. The project proponent would develop and implement a fire safety plan for use during construction and operation.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.	Consistent	Impacts on emergency services and facilities are discussed in Section 4.14, <i>Public Services</i> , of this EIR. The project would be required to comply with conditions of the CUPs and Kern County permits, which will include the requirements of the Kern County Fire Code and Fire Department. The project would be consistent with this policy.
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 <i>Wildland and Urban Fire, Policy 6</i> , 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 on-site hazards from affecting surrounding communities in the event of inundation.	Consistent	See 4.6 <i>Wildland and Urban Fire, Policy 6</i> , above
4.10 Abandoned Open Shafts and Wells		
Policy 1: The County should protect residents from the hazards of improperly abandoned mine shafts.	Consistent	The project does not involve the construction or abandonment of mine shafts.
Policy 2: The County should protect residents from the hazards associated with development in areas where wells have been drilled and abandoned for exploration and/or production of oil and natural gas.	Consistent	The project would not be sited within an area containing wells for the exploration and/or production of oil and natural gas.
Measure B: Support the construction site review program of the Department of Oil, Gas and Geothermal Resources that ensures that wells are precisely located, properly plugged and abandoned, and tested for leakage prior to development of the area.	Consistent	The project does not involve the construction or abandonment of oil and gas wells.
Kern County General Plan, Chapter 5. Energy Element		
5.2 Importance of Energy to Kern County		
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.	Consistent	Consistent with this policy, this EIR serves to evaluate the environmental effects of the project.
Policy 8: The County should work closely with local, State, and federal agencies to assure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts to fish, wildlife, and botanical resources, wherever practical.	Consistent	See 1.10.5 <i>Threatened and Endangered Species, Policy 28</i> , above.

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
Policy 10: The County should require acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses in accordance with the Noise Element of the General Plan.	Consistent	See 3.2 <i>Sensitive Noise Areas, Goal 1</i> , above
5.4 Electricity Resources and Generation, 5.4.4 Transformation Development		
Goal 1: To provide for the careful siting of proven transformation technologies which provide for minimum risks to the environment and to public health and safety.	Consistent	The proposed bioenergy facility would be sited within an existing equipment staging and storage area for the H.M. Holloway Gypsum Mine. The proposed facility is not located on a hazardous site. The project would be consistent with this policy.
Policy 1: The County should encourage the use of landfill gas recovery and methane recovery projects at existing facilities.	Consistent	As described in Section 4.2, <i>Air Quality</i> , the project includes the installation of a landfill gas collection system with 75% collection efficiency. The project would be consistent with this policy.
Policy 2: The County should encourage the safe and orderly development of biomass conversion facilities as an alternative to burning agricultural wastes.	Consistent	This EIR seeks to evaluate potential environmental impacts of constructing and operating the bioenergy facility. This EIR serves to comply with this policy.
Policy 3: When evaluating proposals for transformation plants, the County should take under consideration whether the projects will produce air pollutant emissions in quantities that could reduce the ability to site other energy projects.	Consistent with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM)	As discussed in Section 4.2, <i>Air Quality</i> , the project includes all feasible mitigation measures to reduce significant adverse air quality impacts. With the implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM), the project would comply with this policy.
Policy 4: New transformation facilities shall be in conformance with the Kern County General Plan and the Kern County and Incorporated Cities Integrated Waste Management Plan.	Consistent	As described in this section of the EIR, the bioenergy facility would comply with the <i>Kern County General Plan</i> . The project would comply with this policy.
Measure A: The County shall continue to maintain provisions in the Kern County Zoning Ordinance to provide for the safe and orderly development of transformation projects.	Consistent	The project does not request a change in zoning designation for the site. As described in this section of the EIR, the project is consistent with the land use designations of the site.
5.4 Electricity Resources and Generation, 5.4.7 Transmission Lines		
Goal 1: To encourage the safe and orderly development of transmission lines to access Kern County's electrical resources along routes, which minimize potential adverse environmental effects.	Consistent	Final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable Federal, State, and local regulations,

Table 4.10-2 Project Consistency with Applicable Plans, Policies, and Regulations

Applicable Plan, Policy, or Regulation	Consistency Determination	Project Consistency Analysis
		would ensure that the proposed project's transmission lines would not pose significant environmental or public health and safety hazards. The project would be consistent with this goal.
Policy 1: The County should encourage the development and upgrading of transmission lines and associated facilities (e.g., substations) as needed to serve Kern County's residents and access the County's generating resources, insofar as transmission lines do not create significant environmental or public health and safety hazards.	Consistent	The project does not involve the construction of transmission lines or associated facilities.
Policy 2: The County shall review all proposed transmission lines and their alignments for conformity with the Land Use, Conservation, and Open Space Element of this General Plan.	Consistent	Consistent with this policy, this EIR section serves to evaluate conformance with the <i>Land Use, Conservation, and Open Space Element of the Kern County General Plan</i> .
Policy 5: The County should discourage the siting of above-ground transmission lines in visually sensitive areas.	Consistent	Aesthetic impacts are described in Section 4.1, <i>Aesthetics</i> , of this EIR. The project's transmission lines would not be located within a visually sensitive area.
Policy 6: The County should encourage new transmission lines to be sited/configured to avoid or minimize collision and electrocution hazards to raptors.	Consistent	Final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable Federal, State, and local regulations, would ensure that the proposed project's transmission lines would not pose significant environmental effects.
<i>Kern County General Plan, Appendix E: Siting for Solid Waste Facilities</i>		
Decision Procedure for Siting Solid Waste Disposal Facilities		
<ol style="list-style-type: none"> 1. Solid waste disposal facilities shall be designated on applicable General Plan maps or Specific Plan maps as "Solid Waste Disposal Facility" (Map Code 3.4). <ol style="list-style-type: none"> A. When planning new organic and municipal solid waste disposal facilities the following siting criteria shall apply. All sites for organic and municipal solid waste disposal facilities shall exclude: <ol style="list-style-type: none"> 4) 100-year floodplain (Map Code 2.5). 5) High groundwater defined for facilities as: <ul style="list-style-type: none"> • <u>Unlined Facilities</u>: 100 feet below proposed depth of refuse. • <u>Lined Facilities</u>: 25 feet below proposed depth of refuse. 	Consistent	Consistent with this policy, Site A is located on land designated in the <i>Kern County General Plan</i> maps as Map Code 3.4 (Solid Waste Disposal Facility). The project site is not located within a 100-year floodplain or in an area with high groundwater.

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4.11.1 Introduction

This section of the EIR describes the existing environment and regulatory setting regarding mineral resources. It also describes the impacts to mineral resources that would result from implementation of the proposed project. The information in this section is based on the Kern County General Plan, California Department of Conservation (CDOC) documents and maps, California Geologic Survey (CGS) information, and the U.S. Geological Survey (USGS) Mineral Resources Data System.

4.11.2 Environmental Setting

The nonrenewable characteristic of mineral deposits necessitates the careful and efficient development of mineral resources in order to prevent the unnecessary waste of these deposits due to careless exploitation and uncontrolled urbanization. Management of these mineral resources will protect not only future development of mineral deposit areas but will also limit the exploitation of mineral deposits so that adverse impacts caused by mineral extraction will be reduced or eliminated. This section discusses the existing conditions related to mineral resources in the project area.

Regional Setting

Mineral and petroleum resources are essential to Kern County's economy; Kern County produces more oil than any other county in the United States. In addition, borax, cement, and construction aggregates constitute major economic mineral resources. The Surface Mining and Reclamation Act of 1975 (SMARA) requires the State Geologist to classify land into Mineral Resource Zones (MRZs) according to its known or inferred mineral potential. 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.

The MRZ categories are defined as follows (CGS 1999a):

- **MRZ-1:** Areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-2a:** Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves.

Land included in MRZ-2a is of prime importance because it contains known economic mineral deposits.

- **MRZ-2b:** Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain inferred mineral resources as determined by their lateral extension from proven deposits or their similarity to proven deposits. Further exploration could result in upgrading areas classified MRZ-2b to MRZ-2a.
- **MRZ-3a:** Areas containing known mineral occurrences of undetermined economic significance. Further exploration could result in reclassification of all or part of these areas into the MRZ-2a or MRZ-2b categories.
- **MRZ-3b:** Areas containing inferred mineral occurrences of undetermined economic significance. Further exploration could result in the reclassification of all or part of these areas into the MRZ-2a or MRZ-2b categories.
- **MRZ-4:** Areas containing no known mineral occurrence.

Table 4.11-1, *Classified Mineral Resources within Kern County*, demonstrates the classified mineral resources within Kern County that are part of the MRZ-2 group and, therefore, have a demonstrated mineral significance (as opposed to the MRZ-3 group, which has an undetermined mineral significance).

Mineral Resource	MRZ Classification	Number of Areas	Total Acreage
Borates	MRZ-2a and 2b	2	2,564
Limestone	MRZ-2a	4	2,008
Limestone	MRZ-2b	2	157
Silica	MRZ-2a	1	119
Pozzolan (essential cement additive)	MRZ-2b	1	72
Gold	MRZ-2a	3	849
Gold	MRZ-2b	8	6,619
Dimension Stone	MRZ-2a	2	527

Source: CGS 1999b.

Petroleum Resources

As mentioned above, Kern County produces more oil than any other county in the United States. The valley floor area of Kern County and the surrounding lower elevations of the mountain ranges contain numerous deposits of oil and gas resources, a major economic resource for the County.

A majority of the project sites are located within the Lost Hills Oil Field, which includes many active, idle, and plugged oil and gas wells. The closest active oil and gas wells within the Lost Hills Oil Field are located approximately 0.25 mile southeast from the southern boundary of Site B. The sites do not have any known active oil & gas wells (CDOC 2019); however, one plugged oil and gas well is located on Site A. Additionally, the project sites are not located within a designated mineral and petroleum resource site within the Kern County General Plan. The project sites are not located within the General Plan designation of 8.4 (Mineral and Petroleum), although such designations occur within the immediate project vicinity.

Sand and Gravel

Construction aggregates are a major economic mineral resource for Kern County. Sand and gravel have been determined to be important resources for construction, development, and physical maintenance, from highways and bridges to swimming pools and playgrounds. The availability of sand and gravel affects construction costs, tax rates, and affordability of housing and commodities. The State of California has statutorily required the protection of sand and gravel operations. Because transportation costs are a significant portion of the cost of sand and gravel, the long-term availability of local sources of this resource is an important factor in maintaining the economic attractiveness of a community to residents, business, and industry. The major resources of sand and gravel in Kern County are in stream deposits along the eastern side of the San Joaquin Valley and in the Sierra Nevada foothills and in alluvial fan deposits along the north flank of the San Emidio and Tehachapi Mountains at the southern end of the County. Most of the recent alluvium in the San Joaquin Valley floor is composed of sand used as a source of road base material.

Borax

Borax constitutes a major economic mineral resource for Kern County. Borax, a borate mineral (a compound that contains Boron and oxygen), was discovered and put into production in 1872 in Nevada and later, in 1881, in Death Valley. Ironically, for five years the route traveled by Pacific Coast Borax Company's famous twenty mule team trains would pass within 15 miles of a buried deposit that would produce in about six minutes the equivalent tonnage hauled by the mule team during each trip. The discovery of borates in southeastern Kern County in the Kramer District was accidental, when a water well penetrated lakebeds containing colemanite (calcium borate) in 1913. In 1927, underground mining of the minerals kernite and borax began and continued until 1957, when underground operations ceased and open-pit mining began, eventually becoming the largest open-pit mine in California. Annually, over 1.8 million tons are removed from this mine, which supplies about 40% of the world's supply of borates. There are several other sources of borate minerals in the County (CGS 1999b).

Limestone

Carbonate rocks were initially quarried in 1888 as a source of lime. By 1909 the limestone resources were used for the manufacture of Portland cement during the construction of the first Los Angeles aqueduct. Limestone has been mined continuously since 1921, just northeast of Tehachapi, for the manufacture of Portland cement. The Tehachapi Plant was joined by California Portland Cement Company's Mojave Plant in 1955 and National Cement

Company's Lebec Plant in 1976, making Portland cement production second only to borates in terms of economic importance to the region. Cement production is a major economic resource in the County (CGS 1999b).

Dimension Stone

Dimension stone is natural rock materials quarried for the purpose of obtaining blocks or slabs that meet specification as to size (width, length, and thickness) and shape. Color grain texture and pattern, and surface finish, durability, strength, and polish ability are important selection criteria in determining dimension stone. Deposits of marble, sandstone, schist, and other rocks in Kern County have been sources of modest tonnages of building stone which have been utilized as dimension stone, field stone, rubble, and flagstone. Most of the dimension stone (marble and flagstone) was mined until 1904; field stone and flagstone have been mined mostly since about 1952 in the area around Randsburg (CGS 1999b).

Precious Minerals (Gold and Silver)

In terms of total dollar value and number of deposits, gold is the most important metallic mineral commodity that has been mined in Kern County. The earliest mining in Kern County was in 1851 at placer gold deposits in Greenhorn Gulch, which drains into the Kern River about midway between Democrat Springs and Miracle Hot Springs. The first lode mining was in 1852, and by 1865 gold was being mined in four districts around the Kern River. Gold was first prospected in eastern Kern in the 1860s, with the two largest mines being established in the 1890s. The Yellow Aster and Golden Queen mines located in eastern Kern have yielded almost half of the total gold output of the county. The principal sources of silver in Kern County have been deposits in eastern Kern County. Although gold is the chief mineral in value, silver is predominant by a 5:1 ratio and is an important by-product of the gold ore (CGS 1999b).

Gypsum

Gypsum is a natural sulfate mineral composed of calcium sulfate dihydrate. Most commercial gypsum is a massive material that contains a minimum of 90% of the mineral gypsum and is known as rock gypsum. In California, the rock gypsum deposits that have been worked are in mildly metamorphosed pre-Tertiary rocks and in Tertiary non-marine sedimentary rocks. In Kern County, Gypsum deposits are found primarily along the western extent of the County boundary, although several deposits are known to occur around Bakersfield and eastern Kern County (USGS 1920).

Local Setting

As described in Chapter 3, *Project Description*, the project is comprised of two sites—Sites A and B. Site A is a former surface mine that was converted into a class III non-hazardous industrial waste landfill in 1997. Site A is located adjacent to the southern boundary of the active gypsum mining operations associated with the H.M. Holloway Gypsum Mine. Site B is located within an existing equipment staging and storage yard for the mine and is located approximately 0.2 mile south of the mine and immediately east of Holloway Road.

The Assessor's Parcel Numbers (APNs) associated with the project (057-220-16, 057-240-29, 057-240-50, and 057-240-60) are categorized as "producing" mineral right parcels (Kern County Assessor's Office, Mapping Section 2019). These are parcels listed on the mineral tax roll and have an indication of value, meaning they have been purchased or leased for the purpose of exploration (Kern County 2019).

The project sites do not include land classified as an MRZ (CGS 2009b). The closest MRZ to the project sites is an area classified as MRZ-1, located approximately 10 miles southeast of the project sites within the Bakersfield Production Consumption Region, as classified by the State Geologist from "Special Report 210 – Update of Land and Mineral Classification: Aggregate Mineral in the Bakersfield Production-Consumption Region (2009a)." The Kern County General Plan designates areas containing or producing potentially productive petroleum fields, natural gas, and geothermal resources and mineral deposits of regional and statewide significance as Map Code 8.4, Mineral and Petroleum (Minimum 5-acre Parcel Size). Uses within these areas are limited to activities directly associated with resource extraction. Lands designated as such are located in areas roughly surrounding the areas containing existing mineral deposits. Land designated as Map Code 8.4, Mineral and Petroleum area, in the Kern County General Plan occur within the immediate project vicinity. Additionally, active oil production wells are also located within approximately 0.3 mile of the project sites (CDOC 2019). There are 12 groundwater monitoring wells located within the 331-acre Site A boundary. There are currently three groundwater monitoring wells associated with Pit E, four associated with Pit F, and five associated with Pit G. The Pit FG Connection Area is covered by wells associated with both Pits F and G. However, based on a review of records maintained by the California Geologic Energy Management Division (CalGEM), formerly the CDOC Division of Oil, Gas and Geothermal Resources (DOGGR), oil wells were not identified within the project sites.

4.11.3 Regulatory Setting

Federal

There are no applicable Federal regulations for this issue area.

State

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act (SMARA) of 1975 requires the State Geologist to classify land into MRZs according to its known or inferred mineral potential. The primary goal of mineral land classification is to ensure that the mineral potential of land is recognized by local government decision makers and considered before land use decisions are made that could preclude mining. MRZs near the project sites are presented in Section 4.11.2, *Environmental Setting*.

California Geologic Energy Management Division

The CalGEM (formerly known as the DOGGR) is a State agency responsible for supervising the drilling, operation, maintenance, plugging, and abandonment of oil, gas, and geothermal wells. CalGEM's regulatory program promotes the wise development of oil, natural gas, and geothermal resources in California through sound engineering practices, prevention of pollution, and implementation of public safety programs. To implement this regulatory program, CalGEM requires avoidance of building over or near plugged or abandoned oil and gas wells or requires the remediation of wells to current CalGEM standards (DOC, 2019).

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for mineral resources applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

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

1.9 Resource

Goals

Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations that will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources or diminish the other amenities that exist in the County.

Goal 2: To protect areas of important mineral, petroleum, and agricultural resource potential for future use.

Goal 3: To ensure that the development of resource areas minimizes effects of neighboring resource lands.

Policies

Policy 14: Emphasize conservation and development of identified mineral deposits.

Policy 25: Discourage incompatible land use adjacent to Map Code 8.4 (Mineral and Petroleum) areas.

Implementation Measures

Implementation 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.

Implementation Measure K: Protect oilfields and mineral extraction areas through the use of appropriate implementing zone districts: A (Exclusive Agriculture), DI (Drilling Island), NR (Natural Resource), or PE (Petroleum Extraction).

4.11.4 Impacts and Mitigation Measures

This section evaluates the impacts to mineral resources that may occur during construction and operation of the project. It describes the potential mineral resources located on and adjacent to the project sites 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, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

Potential significant project impacts related to mineral resources were identified based on Kern County General Plan maps, CGS information, USGS mineral resource data, and aerial imagery. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

The proposed expansion of waste streams allowed for disposal at the landfill facility and the modification to the hours of operation would not result in new ground disturbance which could result in impacts related to mineral resources; therefore, the impact discussion below focuses on impacts associated with construction and operation of the proposed composting and bioenergy facilities.

Thresholds of Significance

Kern County's Environmental Checklist identifies 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 mineral resources. The Kern County Environmental Checklist states that a project would normally be considered to have a significant impact related to mineral resources if it would:

- a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or

- b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Project Impacts and Mitigation Measures

Impact 4.11-1: The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

The project sites are not designated as an MRZ (CGS 1999b). However, the parcels associated with the project are subject to existing mineral rights claims, and mining operations occur within the immediate project vicinity. Further, areas immediately adjacent to the project sites are designated as Map Code 8.4, Mineral and Petroleum area in the Kern County General Plan.

eASP Composting Facility

As previously described, the project is comprised of Sites A and B. While the northern boundary of Site A abuts an area currently used for surface mining activities associated with the H.M. Holloway Gypsum Mine, the site itself no longer supports gypsum mining activities or contains oil production wells or known mineral resources. Prior to becoming a Class III Industrial Waste Landfill, Site A was mined for gypsum until all economically viable materials were extracted from the site. As part of the approved reclamation plan, Site A was backfilled with limited types of non-hazardous industrial waste until it was established as a landfill in 1997.

Within Site A, the project proposes to construct an extended Aerated Static Pile (eASP) composting facility on top of a portion of the existing landfill that has reached capacity. Site A is primarily accessible from three entrance/exit points on the west side of Holloway Road. The project proposes to utilize the existing landfill access routes; no new site access is proposed. Further, the proposed composting facility would result in the continuation of similar ground-disturbing activities within the same footprint associated with the existing landfill that has reached capacity. As such, construction and operation of the composting facility would not affect adjacent mining operations occurring outside of Site A, or result in the loss of availability of known mineral resources, including the nearby petroleum resources; therefore, impacts would be less than significant.

Bioenergy Facility

Site B would accommodate the proposed bioenergy facility. Currently, Site B is included within the gypsum mine CUP boundary and is occasionally used for equipment staging and storage for the H.M. Holloway Gypsum Mine. However, the majority of Site B is vacant and no active gypsum extraction has occurred on the site. The proposed project would remove the 6-acre Site B from the existing mine site CUP to allow the development of the proposed bioenergy facility. The site does not support mining activities or contain oil production wells or known mineral resources. Equipment staging and storage for the H.M. Holloway Gypsum Mine would no longer occur within Site B, but would occur elsewhere within the modified mine site CUP. As such, the proposed bioenergy facility would not displace the equipment

staging and storage yard. Site B would continue to be accessed via the east side of Holloway Road; no new site access is proposed. Construction and operation of the proposed bioenergy facility would not affect mining operations occurring in the vicinity of Site B or result in the loss of availability of known mineral resources, including the nearby petroleum resources; therefore, impacts would be less than significant.

In summary, while existing mining operations occur in the vicinity of the project sites, given the scope of the project, existing access routes, and the siting of proposed project components outside of existing mining operations and lands designated for mineral and petroleum resources, implementation of the project would not interfere with adjacent mining activities or nearby petroleum extraction activities, and would not result in the loss of land designated for mineral resources. Therefore, implementation of the project would not result in the loss of availability of a known mineral resource and the potential impact to future mineral resources would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.11-2: 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.

As previously noted in response to Impact 4.11-1, the proposed project components would not be located within an MRZ area. Implementation of the project would not impede existing mineral extraction in the project area. As such, the project would not result in the loss of availability of locally important mineral resource recovery sites delineated by the Kern County General Plan and impacts to mineral resources recovery would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative Setting

Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. Section 3.8,

Cumulative Effects Overview, of this EIR discusses cumulative projects near and related to the proposed project. **Table 3-15, Cumulative Projects List**, in Chapter 3 lists specific projects considered in the cumulative impact analysis; however, the geographic scope for cumulative impacts to mineral resources includes all of Kern County. This geographic scope of analysis is appropriate because the loss of availability of mineral resources anywhere in the county would combine with mineral resource impacts of the project to result in a cumulative impact associated with the countywide loss of an important mineral resource.

Impact 4.11-3: The project would contribute to cumulative mineral resources impacts.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

As discussed above, the proposed project would not impact access to, or result in the loss of availability of, any known regional, statewide, or local mineral resources or mineral resource areas designated in the Kern County General Plan. **Table 3-15, Cumulative Projects List**, in Chapter 3, *Project Description*, identifies three cumulative projects. The three cumulative projects are not located within a designated MRZ area and are, therefore, not expected to contribute to cumulative impacts related to mineral resources (Data Basin 2021). Therefore, the less-than-significant impacts of the proposed project would not contribute considerably to the loss of availability of a known mineral resource or locally important mineral resource recovery site and cumulative impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Cumulative impacts would be less than significant.

4.12.1 Introduction

This section of the Environmental Impact Report (EIR) describes the affected environment and regulatory setting for the proposed project and provides analysis of potential impacts related to noise and ground-borne vibration from project implementation. The information and analysis in this section is largely based on ambient noise levels in the project area, estimated noise levels generated by typical construction equipment, the *Kern County General Plan* Noise Element, and distance from sensitive noise receptors.

Acoustical Terminology

An understanding of the physical characteristics of sound is useful for evaluating environmental noise. The methods and metrics used to quantify noise exposure, human response, and relative judgment of loudness are also discussed, and noise levels of common noise environments are presented.

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity and interferes with or disrupts normal activities. The effects of noise on people can be grouped into four general categories:

- Subjective effects (dissatisfaction, annoyance);
- Interference effects (communication and sleep interference, learning);
- Physiological effects (startle response); and
- Physical effects (hearing loss).

Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. The subjective responses of individuals to similar noise events are diverse and influenced by many factors, including the type of noise, the perceived importance of the noise, its appropriateness to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity.

Interference effects of environmental noise refer to those effects that interrupt daily activities and include interference with human communication activities, such as normal conversations, watching television, and telephone conversations, and interference with sleep. Sleep interference effects can include both awakening from sleep and arousal to a lesser state of sleep.

Sound

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Sound is generally characterized by several variables, including frequency and amplitude. Frequency describes the sound's pitch (tone) and is measured in cycles per second (Hertz [Hz]), while amplitude describes the sound's pressure (loudness). Because the range of sound pressures that occurs in the environment is extremely large, it is convenient to express these pressures on a logarithmic scale that compresses the wide range of pressures into a more useful range of numbers. The standard unit of sound measurement is the decibel (dB). Hz is a measure of how many times each second the crest of a sound pressure wave passes a fixed point. For example, when a drummer beats a drum, the skin of the drum vibrates a given number of times per second. If the drum vibrates 100 times per second, it generates a sound pressure wave that is oscillating at 100 Hz, and this pressure oscillation is perceived by the ear/brain as a tonal pitch of 100 Hz. Sound frequencies between 20 and 20,000 Hz are within the range of sensitivity of the healthy human ear.

Sound levels are expressed by reference to a specified national/international standard. The sound pressure level is used to describe sound pressure (loudness) and is specified at a given distance or specific receptor location. In expressing sound pressure level on a logarithmic scale, sound pressure (dB) is referenced to a value of 20 micropascals (μPa). Sound pressure level depends not only on the power of the source but also on the distance from the source to the receiver and the acoustical characteristics of the sound propagation path (absorption, reflection, etc.).

Outdoor sound levels decrease logarithmically as the distance from the source increases. This decrease is due to wave divergence, atmospheric absorption, and ground attenuation. Sound radiating from a source in a homogeneous and undisturbed manner travels in spherical waves. As the sound waves travel away from the source, the sound energy is dispersed over a greater area, decreasing the sound pressure of the wave. Spherical spreading of the sound wave from a point source reduces the noise level at a rate of 6 dB per doubling of distance.

Atmospheric absorption also influences the sound levels received by an observer. The greater the distance traveled, the greater the influence of the atmosphere and the resultant fluctuations. Atmospheric absorption becomes important at distances greater than 1,000 feet. The degree of absorption varies depending on the frequency of the sound as well as the humidity and temperature of the air. For example, atmospheric absorption is lowest (i.e., sound carries farther) at high humidity and high temperatures, and lower frequencies are less readily absorbed (i.e., sound carries farther) than higher frequencies. Over long distances, lower frequencies become dominant as the higher frequencies are more rapidly attenuated. Turbulence, gradients of wind, and other atmospheric phenomena also play a significant role in determining the degree of attenuation. For example, certain conditions, such as temperature inversions, can channel or focus the sound waves, resulting in higher noise levels than would result from simple spherical spreading.

Sound from a tuning fork contains a single frequency (a pure tone), but most sounds in the environment do not consist of a single frequency. Instead, they are a broad band of many frequencies differing in sound level. Because of the broad range of audible frequencies,

methods have been developed to quantify these values into a single number representative of human hearing. The most common method used to quantify environmental sounds consists of evaluating all frequencies of a sound according to a weighting system that is reflective of human hearing characteristics. Human hearing is less sensitive at low frequencies and extremely high frequencies than at the mid-range frequencies. This process is termed “A weighting,” and the resulting dB level is termed the “A-weighted” decibel (dBA).

Because A-weighting is designed to emulate the frequency response characteristics of the human ear and reflect the way people perceive sounds, it is widely used in local noise ordinances and State and federal guidelines, including those of the State of California and Kern County. Unless specifically noted, the use of A-weighting is always assumed with respect to environmental sound and community noise, even if the notation does not include the “A.”

In terms of human perception, a sound level of 0 dBA is the threshold of human hearing and is barely audible by a healthy ear under extremely quiet listening conditions. This threshold is the reference level against which the amplitude of other sounds is compared. Normal speech has a sound level of 60 dBA. Sound levels above about 120 dBA begin to be felt inside the human ear as discomfort, progressing to pain at still higher levels. Humans are much better at discerning relative sound levels than absolute sound levels. The minimum change in the sound level of individual events that an average human ear can detect is about 1 to 3 dBA. A 3 to 5 dBA change is readily perceived. An increase (or decrease) in sound level of about 10 dBA is usually perceived by the average person as a doubling (or halving) of the sound’s loudness.

Because of the logarithmic nature of the decibel, sound levels cannot be added or subtracted directly. However, some simple rules are useful in dealing with sound levels. First, if a sound’s acoustical energy is doubled, the sound level increases by 3 dBA, regardless of the initial sound level (e.g., 60 dBA + 60 dBA = 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%, 50%, and 90% 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 4.12-1, Common Noise Metrics**. To provide a frame of reference, common sound levels are presented in **Figure 4.12-1, Effects of Noise on People**.

Table 4.12-1 Common Noise Metrics

Unit of Measure	Description
Decibel (dB)	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.
A-Weighted Decibel (dBA)	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.
Community Noise Equivalent Level (CNEL)	A metric representing the 24-hour average sound level that includes a 5 dBA penalty during relaxation hours (7:00 p.m. to 10:00 p.m.) and a 10 dBA penalty for sleeping hours (10:00 p.m. to 7:00 a.m.).
Day-Night Average Noise (L_{dn})	The 24-hour average sound level, expressed in a single decibel rating, for the period from midnight to midnight obtained after the addition of a 10 dBA penalty to sound levels for the periods between 10:00 p.m. and 7:00 a.m.
Equivalent Noise Level (L_{eq})	The average acoustic energy content of noise for a stated period of time. The L_{eq} of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. The L_{eq} may also be referred to as the average sound level.
Maximum Noise Level (L_{max})	L_{max} represents the maximum instantaneous noise level experienced during a given period of time. It reflects peak operating conditions and addresses the annoying aspects of intermittent noise.
Minimum Noise Level (L_{min})	L_{min} represents the minimum instantaneous noise level experienced during a given period of time. It reflects baseline operating conditions and is commonly referenced as the noise floor.
Percentile Noise Exceedance Levels ($L_1, L_{10}, L_{50}, L_{90}$)	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1%, 10%, 50%, and 90% of a stated time period.

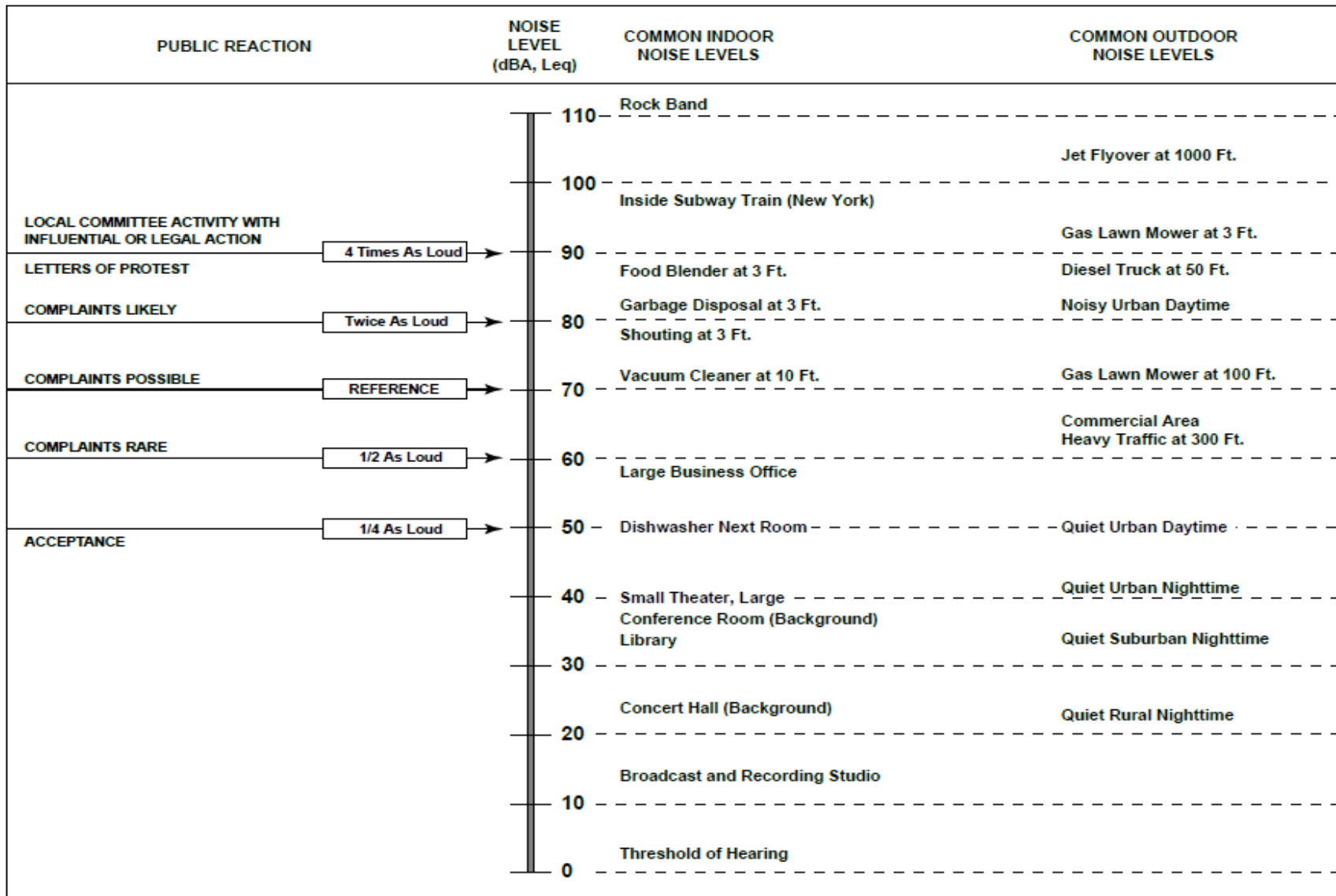


Figure 4.12-1
 Effects of Noise on People

Fundamentals of Vibration

As described in the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment* (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 operation of heavy earth-moving equipment.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The relationship of PPV to RMS velocity is expressed in terms of the “crest factor,” defined as the ratio of the PPV amplitude to the RMS amplitude. Peak particle velocity is typically a factor of 1.7 to 6 times greater than RMS vibration velocity (FTA 2018). The decibel notation acts to compress the range of numbers required to describe vibration.

Typically, ground-borne vibration generated by manmade activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment.

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction.

Annoyance from vibration often occurs when the vibration levels exceed the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 inches per second (in/sec) PPV, while the standard for even the most sensitive and fragile structures is 0.12 in/sec PPV (FTA 2018).

In residential areas, the background vibration velocity level is usually around 50 VdB (approximately 0.0013 in/sec PPV), which is well below the vibration velocity level threshold of perception for humans, which is approximately 65 VdB. A vibration velocity level of 75 VdB is considered to be the approximate dividing line between barely perceptible and distinctly perceptible levels for many people (FTA 2018).

Sensitive Receptors

Land uses deemed sensitive by the State of California include schools, hospitals, rest homes, and long-term care and mental care facilities, which are considered to be more sensitive to ambient noise levels than others. Many jurisdictions also consider residential uses particularly noise-sensitive because families and individuals expect to use time in the home for rest and relaxation, and noise can interfere with those activities. Some jurisdictions may also identify other noise-sensitive uses such as churches, libraries, and parks. Furthermore, sensitive noise receptors may also include threatened or endangered biological species, although many jurisdictions have not adopted noise standards for wildlife areas. Land uses that are generally not considered to be noise sensitive receptors include office, commercial, and retail developments.

4.12.2 Environmental Setting

Project Site

The project sites (Sites A and B) are located in a rural, agricultural area with limited development. Surrounding land uses include the H.M. Holloway Gypsum Mine to the north, a closed Kern County landfill and other undeveloped land to the south, undeveloped Federal land and the 3,000-acre Lost Hills Oil Field (owned and operated by various producers) to the east, and undeveloped land to the west. Other adjacent or nearby land uses include orchard and row-crop farming, rural access roads, a biosolids/green waste composting operation (Liberty Composting), and two State Highways (SR-46 and SR-33). The project sites are located along Holloway Road, which runs parallel to Interstate (I-) 5 and State Route (SR-) 33. Holloway Road intersects SR-46 west of the community of Lost Hills. The existing solid waste facility operates under an existing Conditional Use Permit (CUP). The currently approved 331-acre CUP boundary includes 172.3 acres of active disposal operations.

The project is not located within the sphere of influence of any airport as identified by the Kern County Airport Land Use Compatibility Plan. The closest school to the project sites is the combined Lost Hills Elementary School and A.M. Thomas Middle School, approximately 4.3 miles southeast of the project site in the community of Lost Hills. The State of California lists schools as sensitive receptors, which are considered to be more sensitive to effects from the environment than others. The closest residences are located approximately 2.3 miles east of the project site at Munger Farms, and are the closest sensitive receptors to the project site; therefore, no sensitive receptors, such as private residences, schools, parks, churches, or hospitals, exist within a 1-mile radius of the project sites.

The existing noise environment is primarily influenced by natural noise sources such as wind and bird vocalizations, as well as by manmade noise sources including the existing landfill operation, manufactured bird noises, vehicle traffic, and occasional aircraft overflights.

Existing Acoustical Environment

A project-specific noise analysis was not performed for this project; however, SR-46 noise has been measured by the U.S. Department of Transportation (USDOT) to generate noise levels between 35 and 50 dB during peak hours (USDOT 2018).

4.12.3 Regulatory Setting

Federal

Noise Control Act of 1972 (42 USC 4910)

The Noise Control Act of 1972 (42 United States Code [USC] 4910) 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.

United States Environmental Protection Agency, Recommendations in *Information on Levels of Environmental Noise Requisite to Protect Health and Welfare with an Adequate Margin of Safety* (NTIS 550\9-74-004, USEPA, Washington, D.C., March 1974)

In response to a federal mandate, the U.S. Environmental Protection Agency (USEPA) provided guidance in *Information on Levels of Environmental Noise Requisite to Protect Health and Welfare with an Adequate Margin of Safety* (NTIS 550\9-74-004, USEPA, Washington, D.C., March 1974), commonly referenced as the Levels Document, that establishes an L_{dn} of 55 dBA as the requisite level, with an adequate margin of safety, for areas of outdoor uses, including residences and recreation areas. The Levels Document does not constitute USEPA regulations or standards but identifies safe levels of environmental noise exposure without consideration of costs for achieving these levels or other potentially relevant considerations. The Levels Document is intended to “provide State and local governments as well as the Federal government and the private sector with an informational point of departure for the purpose of decision-making.” USEPA is careful to stress that the recommendations contain a factor of safety and do not consider technical or economic feasibility issues and, therefore, should not be construed as standards or regulations.

Occupational Safety and Health Administration Occupational Noise Exposure Hearing Conservation Amendment (*Federal Register* 48 [46], 9738–9785, 1983)

The Occupational Safety and Health Administration (OSHA) Occupational Noise Exposure Hearing Conservation Amendment (*Federal Register* 48 [46], 9738–9785, 1983) stipulates that protection against the effects of noise exposure shall be provided for employees when sound

levels exceed 90 dBA over an 8-hour exposure period. Protection shall consist of feasible administrative or engineering controls. If such controls fail to reduce sound levels to within acceptable levels, personal protective equipment shall be provided and used to reduce exposure of the employee. Additionally, a Hearing Conservation Program must be instituted by the employers whenever employee noise exposure equals or exceeds the action level of an 8-hour time-weighted average sound level of 85 dBA. The Hearing Conservation Program requirements consist of periodic area and personal noise monitoring, performance and evaluation of audiograms, provision of hearing protection, annual employee training, and record keeping.

State

The California Department of Health Services has studied the correlation of noise levels and their effects on various land uses and established guidelines for evaluating the compatibility of various land uses, for the noise elements of local general plans, as a function of community noise exposure. The guidelines are the basis for most noise element land use compatibility guidelines in California.

The State requires all municipalities to prepare and adopt a comprehensive long-range general plan. General plans must contain a noise element (California Government Code [CGC] Section 65302(f) and Health Safety Code Section 46050.1). The requirements for the noise element of the general plan include describing the noise environment quantitatively using a cumulative noise metric, such as CNEL or DNL; establishing noise/land use compatibility criteria; and establishing programs for achieving and/or maintaining land use compatibility. Noise elements should address all major noise sources in the community, including mobile and stationary noise sources. In California, most counties and cities have also adopted noise ordinances, which serve as enforcement mechanisms for controlling noise.

The State of California Governor's Office of Planning and Research (OPR) land use compatibility for community noise environment chart (OPR 2017) identifies the normally acceptable range for several different land uses, as shown in **Table 4.12-2, *Land Use Compatibility for Community Noise Environment***. Persons in low-density residential settings are most sensitive to noise intrusion, where noise levels of 60 dBA CNEL and below are considered "acceptable." For land uses such as schools, libraries, churches, hospitals, and parks, acceptable noise levels go up to 70 dBA CNEL.

State CEQA *Guidelines* (Public Resources Code [PRC] Section 21000 et seq.) requires the identification of "significant" environmental impacts and their feasible mitigation. Section XI of State CEQA *Guidelines* Appendix G (California Code of Regulations [CCR] Title 14, Appendix G) lists some indicators of potentially significant impacts, which are included below under the heading "Thresholds of Significance."

Table 4.12-2 Land Use Compatibility for Community Noise Environment

Land Use Category	Community Noise Exposure - L _{dn} or CNEL (dBA)							
	50	55	60	65	70	75	80	
Residential – Low Density Single Family, Duplex, Mobile Home	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable
Residential – Multi-Family	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable
Transient Lodging – Motel/Hotel	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable
Schools, Libraries, Churches, Hospitals, Nursing Homes	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable
Auditorium, Concert Hall, Amphitheaters	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable
Sports Arena, Outdoor Spectator Sports	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable
Playgrounds, Neighborhood Parks	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Clearly Unacceptable
Office Buildings, Business, Commercial and Professional	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable
Industrial, Manufacturing, Utilities, Agriculture	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development generally should not be undertaken.

Source: OPR 2017.

Ground-Borne Vibration

There are currently no Federal, State, or local regulatory standards for ground-borne vibration. However, the California Department of Transportation (Caltrans) has developed vibration criteria based on potential structural damage risks and human annoyance (Caltrans 2013). Caltrans’ threshold criteria pertaining to building damage and human annoyance, for continuous and transient events, are summarized in **Table 4.12-3, *Vibration Criteria for Structural Damage***, and **Table 4.12-4, *Vibration Criteria for Human Annoyance***, respectively below.

As indicated in **Table 4.12-3, *Vibration Criteria for Structural Damage***, the threshold at which there is a risk to normal structures from continuous or frequent vibration sources is 0.3 in/sec PPV for older residential structures and 0.5 in/sec PPV for newer building construction. A threshold of 0.5 in/sec PPV also represents the structural damage threshold applied to older structures for transient vibration sources.

Table 4.12-3 Vibration Criteria for Structural Damage

Structure and Condition	Vibration Level (in/sec PPV)	
	Transient Sources	Continuous/ Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
Newer residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Notes: Transient sources create a single, isolated vibration event, such as blasting or ball drops. Traffic, train, and most construction vibrations are considered continuous.
Source: Caltrans 2013.

With regard to human perception, vibration levels would begin to become distinctly perceptible at levels of 0.04 in/sec PPV for continuous or frequent vibration sources and 0.25 in/sec PPV for transient vibration sources, as shown in **Table 4.12-4, *Vibration Criteria for Human Annoyance***. Continuous vibration levels are considered annoying for people in buildings at levels of 0.2 in/sec PPV.

Table 4.12-4 Vibration Criteria for Human Annoyance

Human Response	Vibration Level (in/sec PPV)	
	Transient Sources	Continuous / Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.1
Annoying to people in buildings	--	0.2
Severe	2.0	0.4

Notes: Transient sources create a single, isolated vibration event, such as blasting or ball drops. Traffic, train, and most construction vibrations are considered continuous.
 -- Not available.
 Source: Caltrans 2013.

Local

Kern County General Plan

The *Kern County General Plan* Noise Element is a mandatory element as required by CGC Section 65302(f). The State requires that local jurisdictions prepare statements of policy indicating their intentions regarding noise and noise sources, establish desired maximum noise levels according to land use categories, set standards for noise emission from transportation and fixed-point sources, and prepare implementation measures to control noise. Noise Elements are prepared in accordance with *Guidelines for the Preparation and Content of Noise Elements of the General Plan*, published by the California Office of Noise Control in 1976.

The *Kern County General Plan* Noise Element provides goals, policies, and implementation measures applicable to noise, which, as related to the project, are provided below. The major purpose of the County’s Noise Element is to establish reasonable standards for maximum noise levels desired in Kern County, and to develop an implementation program which could effectively mitigate potential noise problems and not subject residential or other sensitive noise land uses to exterior noise levels in excess of 65 dBA L_{dn}, and interior noise levels in excess of 45 dBA L_{dn}.

Applicable goals, policies, and implementation measures from the *Kern County General Plan* Noise Element relevant to the proposed project are summarized below.

Chapter 3. Noise Element

3.3 Sensitive Noise Areas

Goals

Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.

Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.

Policies

Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.

Policy 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 living spaces or other noise sensitive interior spaces.

Policy 7: Employ the best available methods of noise control.

Implementation Measures

Implementation Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.

Implementation 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.

Implementation 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} .

Implementation 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.

Implementation 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.

Implementation 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

5.2 Importance of Energy to Kern County

Policies

Policy 10: The County should require acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses in accordance with the Noise Element of the General Plan.

Kern County Zoning Ordinance

Section 19.80.030.S(1) of the Kern County Zoning Ordinance restricts noise generated by commercial or industrial uses within 500 feet of a residential use or residential zone district. The commercial or industrial use shall not generate noise that exceeds an average 65 dB Ldn between the hours of 7 a.m. and 10 p.m., and shall not generate noise that exceeds 65 dB, or which would result in an increase of 5 dB or more from ambient sound levels, whichever is greater, between the hours of 10 p.m. and 7 a.m. Commercial or industrial facilities that are located in the M-3 zone district are exempt from these noise-generation restrictions.

Kern County Code of Ordinances

The Kern County Code of Ordinances, Chapter 8.36 (Noise Control), includes acceptable hours of construction, and limitations on construction related noise impacts on adjacent sensitive receptors.

Section 8.36.020 – Prohibited sounds

It is unlawful for any person to do, or cause to be done, any of the following acts within the unincorporated areas of the county:

- H. To create noise from construction, between the hours of nine (9:00) p.m. and six (6:00) a.m. on weekdays and nine (9:00) p.m. and eight (8:00) a.m. on weekends, which is audible to a person with average hearing faculties or capacity at a distance of one hundred fifty (150) feet from the construction site, if the construction site is within one thousand (1,000) feet of an occupied residential dwelling except as provided below:
 1. The resource management director or a designated representative may for good cause exempt some construction work for a limited time.
 2. Emergency work is exempt from this section.

4.12.4 Impacts and Mitigation Measures

This section evaluates the impacts related to noise that may be generated during construction and operation of the project. It describes the noise-sensitive receptors located on and adjacent to the project sites 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, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

The California Environmental Quality Act (CEQA) requires determination of the significance of noise impacts associated with proposed projects. The process of assessing the significance of noise impacts associated with the proposed project involves establishing thresholds at which significant impacts on noise-sensitive uses may occur. Noise levels associated with construction and operational activities related to the proposed project were predicted and compared to these significant thresholds. Potential sources of noise associated with the proposed project include:

- Construction equipment (i.e., wheel loaders, bulldozers, a typical truck loading cycle);
- Operation of an aggregate processing plant, landfill, and ancillary facilities; and
- Construction traffic.

The noise levels generated during project construction from the various noise sources were calculated based on data from standard references. Noise levels associated with the proposed project were evaluated against the Kern County noise standards established in the *Kern County General Plan*.

Short-Term Construction Noise

The *Kern County General Plan* Noise Element establishes a threshold of 65 dBA Ldn for exterior noise levels for sensitive receptors. Additionally, the Kern County Municipal Code restricts construction activities from occurring between the hours of 9:00 p.m. to 6:00 a.m. on weekdays and 9:00 p.m. to 8:00 a.m. on weekends for construction sites located within 1,000 feet of an occupied residential dwelling. Kern County does not have regulations restricting construction noise levels.

eASP Composting Facility

The proposed project includes the construction of an extended Aerated Static Pile (eASP) composting system on 136.2 acres in the general area of Pit E (including the areas adjacent to Pit E that are currently used for overburden storage) and would include infrastructure to force air flow into compost material during the active compost phase. Installation of the full composting system would be implemented in three phases. The construction schedule would depend on demand for compost, but it is assumed that construction of all three phases would be completed no later than 2030. Construction of Phase 1 would occur in 2021, Phase 2 would occur in 2025, and Phase 3 would occur in 2030. The infrastructure for each phase would take approximately 30 to 60 days to complete and become operational once approvals have been obtained. The construction of the compost facility would consist primarily of the grading of the sites, the excavation of retention ponds, and the installation of solar-powered blowers for aerating compost piles.

Construction activities would generate temporary noise through the use of on- and off-road vehicles on a site that is currently used for existing landfill operations. Typical construction equipment that may be used include excavators, graders, scrapers, loaders, backhoes, haul trucks, and cranes. The noise levels of primary concern are typically associated with the site preparation phase because of the on-site equipment associated with clearing, grading, and excavation. Typical noise levels associated with construction equipment are described in **Table 4.12-5, Typical Construction Noise Equipment**, using data from the FTA's *Transit Noise and Vibration Impact Assessment* (FTA 2018). Depending on the operations conducted, individual equipment noise levels are expected to range from 80 to 88 dBA at 50 feet.

Table 4.12-5 Typical Construction Noise Equipment

Noise Source	Noise Level (dBA) at 50 feet from Source
Dozer or Tractor	85
Excavator	82
Compactor	82
Front-end Loader	85
Backhoe	80
Grader	85
Crane	83
Generator	81
Truck	88

Source: FTA 2018.

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.

Bioenergy Facility

Construction of the bioenergy facility would take approximately 11 months to complete. Construction activities would generate temporary noise through the use of on- and off-road vehicles on a site that is currently used for existing landfill operations. On- and off-road construction equipment would be similar to the equipment used for ongoing operations of the existing landfill facility and construction of the composting system.

Landfill Facility

The proposed expansion of waste streams allowed for disposal at the landfill facility and the modification to the hours of operation would not result in construction or new ground disturbance which could generate noise; therefore, the impact discussion below focuses on impacts associated with operation of the landfill and construction and operation of the proposed composting and bioenergy facilities.

Long-Term Operation Noise

eASP Composting Facility

The composting process would take place on 240 composting sites in the facility. Each composting site would be equipped with a pair of 1.5-horsepower blower motors powered by a small array of solar cells with a backup battery supply. Operation of the composting facility would require operation of similar on- and off-road equipment and vehicles as the equipment used during construction and for ongoing landfill operation.

Bioenergy Facility

Noise associated with operation of the bioenergy facility is anticipated to be limited to trucks hauling feedstock materials to the site. Feedstock materials would be delivered to the site already chipped, so on-site chipping would not be required. All other noise associated with the gasification process is anticipated to be limited and contained within the gasification facility.

Landfill Facility

The proposed project would not modify the type or quantity of equipment used for landfill operations. The project proposes to increase the facility's hours of operation to 24 hours per day, 365 days per year to meet demand and minimize the amount of daytime traffic.

Short-Term Construction Groundborne Vibration

eASP Composting Facility

Construction activities have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and operations involved. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increasing distance. **Table 4.12-6, *Typical Construction Equipment Vibration Levels***, shows typical vibration levels for various construction equipment.

Table 4.12-6 Typical Construction Equipment Vibration Levels

Equipment	PPV at 25 feet (in/sec)	Approximate v (VdB) at 25 feet
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson drilling	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: Caltrans 2011.

Bioenergy Facility

Construction of the bioenergy facility would take approximately 11 months to complete and would require the use of heavy construction equipment and hauling vehicles capable of generating ground-borne vibration and noise similar to that described for construction of the composting system.

Landfill Facility

The proposed expansion of waste streams allowed for disposal at the landfill facility and the modification to the hours of operation would not result in construction or new ground disturbance which could generate ground-borne vibration; therefore, the impact discussion below focuses on impacts associated with operation of the landfill and construction and operation of the proposed composting and bioenergy facilities.

Long-Term Operation Groundborne Vibration

eASP Composting Facility

Vibration sources associated with long-term operation of the composting system would be similar to the sources of ground-borne vibration and noise during construction—the use and movement of heavy construction equipment and hauling trucks.

Bioenergy Facility

Vibration sources associated with long-term operation of the bioenergy facility is not expected to generate ground-borne vibration.

Landfill Facility

Vibration sources associated with long-term operation of the landfill would be consistent with existing operations.

Thresholds of Significance

Kern County's Environmental Checklist (updated in May 2019) identifies the following criteria, as established in State CEQA *Guidelines* Appendix G, to determine if a project could potentially have a significant adverse effect related to noise. The Kern County Environmental Checklist states that a project would normally be considered to have a significant impact related to noise if it would result in:

- a. Generation of a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies;
- b. Generation of, excessive ground-borne vibration or ground-borne noise levels;

- c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- d. For a project located within the Kern County Airport Land Use Compatibility Plan, would the project expose people residing or working in the project area to excessive noise levels.

Project Impacts and Mitigation Measures

Impact 4.12-1: The project would generate 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.

The project sites are located within an operational landfill, adjacent to an active mining operation, and surrounded by other industrial-type land uses. The existing permitted operation utilizes heavy construction equipment to push and compact waste and to move and maintain soils (e.g., bulldozers, scrapers, water trucks). Heavy truck traffic is a normal part of the permitted activities. There is no record of noise complaints from the surrounding landowners. As required by the *Kern County General Plan*, the project site is surrounded by a designated landfill buffer, which prevents the encroachment of land uses that would be adversely affected by construction and operation noise. Implementation of the proposed project would generate noise during construction and operational activities. A discussion of construction and operational noise associated with buildout of the proposed eASP composting facility, bioenergy facility, and landfill facility is provided below.

eASP Composting Facility

Construction

The nearest noise-sensitive receptors (i.e., rural residences) are located approximately 2.3 miles east of the project site at Munger Farms. Given the distance between the project site and the nearest sensitive receptors, construction of the proposed composting system is not expected to generate construction noise that would exceed a maximum noise level threshold in the vicinity of sensitive receptors, pursuant to local noise thresholds for residences. Construction activities would be temporary and would only result in short-term noise impacts. Additionally, implementation of Mitigation Measure MM 4.12-1 (COM, BEF), would require construction activities to be conducted in accordance with applicable local noise standards (i.e., construction activities will not take place before 6:00 a.m. or after 9:00 p.m. on weekdays and 8:00 a.m. or after 9:00 p.m. on weekends and would not exceed established thresholds for sensitive receptors. Therefore, implementation of Mitigation Measure MM 4.12-1 (COM, BEF) would further reduce impacts from construction of the project.

Operation

Noise generated by operation of the proposed composting facility is anticipated to be consistent with noise generated by ongoing landfill operations. Additionally, the project site's designated landfill buffer would not be modified by the proposed project and would continue to prevent the encroachment of land uses that would be adversely affected by construction and operational noise, as required by the *Kern County General Plan*. Due to the existing level of industrial noise generated by the operation of on- and off-road construction equipment and vehicles at the project site, and the distance from the nearest sensitive receptor, operation of the proposed composting facility would not generate a substantial permanent increase in the ambient noise levels in the vicinity of the project in excess of local noise standards and impacts would be less than significant.

Bioenergy Facility

Construction

Construction activities would be consistent with the *Kern County General Plan* Noise Element and would not generate construction noise between the hours of 9:00 p.m. and 6:00 a.m. on weekdays with implementation of Mitigation Measure MM 4.12-1 (COM, BEF). Additionally, as discussed previously, the nearest noise-sensitive receptor is located approximately 2.3 miles east of the project site at Munger Farms. Construction activities would be temporary and would only result in short-term noise impacts. Therefore, construction of the bioenergy facility would not create a substantial temporary increase in ambient noise levels and implementation of Mitigation Measure MM 4.12-1 (COM, BEF) would further reduce impacts to a less-than-significant level.

Operation

Noise generated by trucks hauling feedstock material for operation of the bioenergy facility is expected to be consistent with noise generated by existing trucks traveling to and from the adjacent landfill office and parking area. Therefore, based on the ambient noise levels of the site, the consistency of noise that would be associated with operation of the new bioenergy facility, and the distance from the nearest sensitive receptor, operation of the bioenergy facility would not generate a substantial permanent increase in the ambient noise levels in the vicinity of the project in excess of local noise standards and impacts would be less than significant.

Landfill Facility

The project proposes a modification to the existing landfill facility CUP which would extend the hours of operation to 24 hours per day, 365 days per year. The proposed extension of the hours of operation would result in a permanent increase in noise generated by operations during the hours of 4:00 p.m. to 6:00 a.m. daily. As discussed previously, the boundaries of the 331-acre project site and the existing landfill buffer would not change as a result of the proposed project, and the nearest sensitive receptor would still be located 2.3 miles from the project site. Therefore, the change in hours of operation of the landfill facility would not generate a

substantial permanent increase in the ambient noise levels at noise-sensitive receptors in the vicinity of the project in excess of local noise standards and impacts would be less than significant.

Mitigation Measures

MM 4.12-1 (COM, BEF) The following measures are to be implemented to further reduce short-term noise levels associated with project construction activities:

- a. Construction equipment shall be fitted with noise-reduction features such as mufflers and engine shrouds that are no less effective than those originally installed by the manufacturer.
- b. Construction activities at the project site shall comply with the hourly restrictions for noise-generating construction activities, as specified in the County's Code of Ordinances, Chapter 8.36. Accordingly, construction activities shall be prohibited between the hours of 9:00 p.m. to 6:00 a.m. on weekdays, and between 9:00 p.m. to 8:00 a.m. on weekends. These hourly limitations shall not apply to activities where hourly limitations would result in increased safety risk to workers or the public, such as commissioning and maintenance activities that must occur after dark to ensure photovoltaic arrays are not energized; unanticipated emergencies requiring immediate attention; or security patrols.
- c. Haul trucks shall not be allowed to idle for periods greater than 5 minutes, except as needed to perform a specified function (e.g., concrete mixing).
- d. On-site vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency).
- e. Back-up beepers for all construction equipment and vehicles shall be broadband sound alarms or adjusted to the lowest noise levels possible, provided that the Occupational Safety and Health Administration and California Division of Occupational Safety and Health safety requirements are not violated. On vehicles where back-up beepers are not available, alternative safety measures such as escorts and spotters shall be employed.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.12-1 (COM, BEF), temporary impacts associated with construction activities would be less than significant. Operational impacts would be less than significant.

Impact 4.12-2: The project would generate excessive ground-borne vibration or ground-borne noise levels.

Construction and operation of the proposed composting system and construction of the proposed bioenergy facility would generate ground-borne vibration and noise, as discussed in detail below. The proposed modifications to the landfill's waste streams and hours of operation, as well as operation of the bioenergy facility, would not include any activities expected to generate ground-borne vibration or noise and are, therefore, not discussed further below.

eASP Composting Facility**Construction**

As discussed under Impact 4.12-1 above, on-site construction equipment would include excavators, graders, scrapers, loaders, backhoes, and haul trucks; no pile driving would occur. Construction activities would be temporary and would only result in short-term noise impacts. As discussed previously, there are no sensitive receptors within 2 miles of the project site. Given the distance between the project site and the nearest sensitive receptors, proposed construction activities are not expected to generate ground-borne vibration levels that would damage nearby structures. Construction-generated vibration is not expected to exceed Caltrans recommended standards of 0.2 in/sec PPV; therefore, impacts would be less than significant.

Operation

Ground-borne vibration associated with operation of the proposed composting facility would be consistent with ground-borne vibration generated by ongoing landfill operations. Vibration generated by operation of the composting facility is not expected to exceed Caltrans recommended standards of 0.2 in/sec PPV; therefore, operational impacts are considered to be less than significant.

Bioenergy Facility**Construction**

Construction activities would be temporary and would only result in short-term noise impacts. The location of the proposed bioenergy facility is currently used by hauling trucks and heavy equipment for ongoing landfill operations; therefore, ground-borne vibration and noise generated by construction activities would be similar to existing conditions. Construction-generated vibration is not expected to exceed Caltrans recommended standards of 0.2 in/sec PPV; therefore, construction impacts are considered to be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.12-3: The project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

As discussed under Impact 4.12-1, ambient noise at the project sites is dominated by noise from the use of heavy equipment and vehicles for ongoing landfill operations. Long-term noise generated by operation of the proposed composting and bioenergy facility would be consistent with noise generated by existing landfill operations. The proposed modification of hours of operation would increase noise at the landfill between the hours of 4:00 p.m. to 6:00 a.m.; however, the existing landfill buffer would not be modified, and the nearest noise-sensitive receptors are located approximately 2.3 miles from the project site. The proposed project would not result in a substantial permanent increase in ambient noise levels capable of exceeding local noise standards; therefore, impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative Setting

Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. A cumulative impact analysis first identifies whether a cumulatively significant impact exists in the given resource area. If one exists, the analysis then determines whether the project will make a considerable contribution to that impact. Where a cumulative impact is severe, even a small contribution may be considerable.

The cumulative setting for noise is the buildout of the *Kern County General Plan* and the other projects in the vicinity of the project. Section 3.8, *Cumulative Effects Overview*, of this EIR discusses cumulative projects within a 6-mile radius of the project. **Table 3-15, *Cumulative Projects List***, in Chapter 3 lists specific projects considered in the cumulative impact analysis.

Impact 4.12-4: The project would contribute to cumulative noise impacts.
eASP Composting Facility, Bioenergy Facility, and Landfill Facility

As noted above, implementation of the proposed project would generate short-term and long-term noise during construction and operation from the use and movement of heavy construction equipment and vehicles, the modification to hours of operation, and the operation of new equipment, such as blowers for the composting system and the bioenergy gasification system. However, due to the ambient noise levels at the project sites being dominated by noise generated by the use of heavy equipment and vehicles for ongoing landfill operations, the approximate 2.3-mile distance between the project site and the nearest sensitive receptors, and the existing landfill buffer that would not be modified by the proposed project, the project's contribution to future noise levels would be minor and would not result in a cumulatively considerable contribution to cumulative noise levels or noise impacts. The noise levels associated with construction and operation of the proposed project would be consistent with the standards established by the *Kern County General Plan* and Kern County Noise Ordinance and would be further reduced with the implementation of Mitigation Measure MM 4.12-1 (COM, BEF).

No proposed projects have been identified within 6 miles of the project sites that would substantially increase cumulative noise levels. The nearest cumulative project is the Kern County Waste Management Project, located approximately 22 miles southeast of the project site. Therefore, the proposed project would not result in a significant impact on either a project-specific or cumulative basis.

Mitigation Measures

Implement Mitigation Measure MM 4.12-1 (COM, BEF).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.12-1 (COM, BEF), impacts would be less than significant.

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4.13.1 Introduction

This section of the Environmental Impact Report (EIR) addresses potential impacts of the project on population, housing, and employment and provides an overview of current population estimates, projected population growth, current housing and employment trends, and the regulatory setting. Sources of information and data provided in this section include, but are not limited to, the *Kern County General Plan* and Housing Element, and demographic information from the California Department of Finance (DOF), and the U.S. Census Bureau.

4.13.2 Environmental Setting

Regional and Local Population Trends

Within an area of 8,202 square miles, Kern County is the third largest county in California. The project sites (Sites A and B) are in the northwest portion of Kern County, approximately 4.3 miles northwest of the Lost Hills Planning Area, 5.4 miles northeast of the community of Blackwells Corner, and 22.7 miles west of the City of Wasco. There are no residential populations or housing units located within the project site; the nearest residential units are located approximately 2.3 miles east of the project site at Munger Farms.

According to the California DOF, Kern County’s total population was 896,031 in 2017. The total population as of January 1, 2018, was 906,563, which represents a 1.1% increase from 2017, and as of January 1, 2019, the total population was 916,464 persons, an increase of 2.3% from 2017 and 1.1% from 2018. Kern County has experienced significant migratory growth in the last decade, and the natural increase in population has remained fairly constant. However, due to economic conditions, population trends have been reverting to historic trends, which reflect 3% growth per year. The County’s population is projected to be over 1,000,000 by July 1, 2020. These trends are reflected in **Table 4.13-1, Kern County Population Trends**.

Table 4.13-1 Kern County Population Trends

Area	2017 Total Population	2018 Total Population	2019 Total Population	Percent Change 2017-2019	Percent Change 2018-2019
Incorporated	583,235	591,088	598,458	2.6	1.2
Unincorporated	312,796	315,475	318,006	1.6	0.8
Total	896,031	906,563	916,464	2.3	1.1

Source: U.S. Department of Finance 2019

Regional and Local Housing Trends

Housing in Kern County continues to grow. Kern County had a total of 296,594 housing units in 2017 and 299,674 units in 2019. Of the total housing units, approximately 73% were in single-unit structures, 18% were in multi-unit structures, and 8% were mobile homes. These trends are reflected in **Table 4.13-2, *Kern County Housing Trends***.

Area	2017 Total Housing Units	2019 Total Housing Units	Percent Change 2017–2019
Incorporated Vacancy Rate	182,167 (8.1%)	184,701 (8.3%)	1.4
Unincorporated Vacancy Rate	114,427 (14.3%)	114,973 (14.5%)	0.04
Total (Percent Vacant)	296,594 (10.5%)	299,674 (10.7%)	0.1

Source: U.S. Department of Finance 2018, 2019

Regional and Local Employment Trends

Kern County's economy is based on agriculture, oil, aerospace, trade, transportation, utilities, and warehousing services. Despite this economic diversification, the overall performance of the County has been mixed in recent years when compared to the State and other counties. This is due in part to the cyclical and uncertain nature of oil and aerospace industries, which are often affected by many external factors. Further, the agricultural sector consists largely of lower paying and often seasonal employment, which limits the positive multipliers within the economy. One of the key industries in the County is value-added agriculture. New industries such as transportation, logistics, and warehousing are emerging and growing in the County. Aerospace potential is driven by the emergence of private-sector space-travel activities, as well as other private sector aerospace activities and government contracts related to the County's two military bases. Between 2013 and 2017, for the employable population 16 years and older, 521,019 persons (or 58.1%) were in the labor force (California DOF 2019).

Several industries provide employment opportunities in Kern County. **Table 4.13-3, *Industries in Kern County***, summarizes the industries in Kern County as well as the percent of the County population that each industry employs based on the 2010 U.S. Census data, which is the most recent available data.

Table 4.13-3 Industries in Kern County

Industry	Percent of Population
Agriculture, forestry, fishing, hunting, and mining	14.0
Construction	7.4
Manufacturing	5.3
Wholesale trade	3.2
Retail trade	11.0
Transportation, warehousing, and utilities	5.3
Information	1.4
Finance, insurance, real estate, and rental and leasing	4.6
Professional, scientific, management, administrative, and waste management services	8.3
Educational, health, and social services	19.3
Arts, entertainment, recreation, accommodation, and food services	8.0
Other services (except public administration)	4.8
Public administration	7.4

Source: U.S. Census Bureau 2010.

As noted in Table 4.13-3, educational, health, and social services; agriculture, forestry, fishing, hunting, and mining; and retail trade industries provided the greatest amount of County employment opportunities in 2010. The top three fastest growing occupations between 2008 and 2018 were projected to be security and fire alarm system installers, mixing and blending machine workers, home health aides, and occupational/physical therapist assistants/aides. Mining and logging employment were predicted to increase by about 6.5%, employing approximately 11,400 workers by 2018. Kern County employment projections between 2008 and 2018 by industry type in 2010 are shown in **Table 4.13-4, 2008–2018 Industry Employment Projections, Bakersfield Metropolitan Statistical Area (MSA), Kern County**, which is the most recent available data.

Table 4.13-4 2008–2018 Industry Employment Projections, Bakersfield Metropolitan Statistical Area (MSA), Kern County

Industry Title	Annual Average Employment		Employment Change	
	2008	2018	Numerical	Percent
Health Care and Social Assistance	23,600	33,300	9,700	41.1
Education Services, Health Care and Social Assistance	25,500	35,800	10,300	40.4
Professional, Scientific, and Technical Services	10,500	14,100	3,600	34.3
Wholesale Trade	7,700	10,200	2,500	32.5
Educational Services (Private)	1,900	2,500	600	31.6
Professional and Business Services	25,000	31,300	6,300	25.2
Administrative and Support and Waste Management and Remediation Services	12,200	14,800	2,600	21.3
Nondurable Goods (311-316,322-326)	8,000	9,700	1,700	21.3
Leisure and Hospitality	21,500	25,900	4,400	20.5
Accommodation and Food Services	19,100	23,000	3,900	20.4
Total Nonfarm	238,000	277,900	39,900	16.8
Arts, Entertainment, and Recreation	2,500	2,900	400	16.0
Trade, Transportation, and Utilities	44,700	51,200	6,500	14.5
Local Government	41,700	47,200	5,500	13.2
Manufacturing	13,700	15,500	1,800	13.1
State and Local Government	51,700	58,000	6,300	12.2
Real Estate and Rental and Leasing	3,300	3,700	400	12.1
Transportation, Warehousing, and Utilities	9,600	10,700	1,100	11.5
Government	61,500	68,600	7,100	11.5
Retail Trade	27,400	30,300	2,900	10.6
Information	3,000	3,300	300	10.0
Construction	16,500	18,000	1,500	9.1
Federal Government	9,800	10,600	800	8.2
State Government	10,000	10,800	800	8.0
Financial Activities	8,900	9,500	600	6.7
Mining and Logging	10,700	11,400	700	6.5
Other Services (excludes 814-Private Household Workers)	7,000	7,400	400	5.7
Finance and Insurance	5,500	5,800	300	5.5
Durable Goods (321,327,331-339)	5,700	5,800	100	1.8
Management of Companies and Enterprises	2,400	2,400	0	0.0
Total	49,600	48,800	-800	-1.6

Note: This represents the most recent available data. Projections of employment by industry data were not available in May or June 2012, when the California Economic Development Department Kern County Profile was accessed.

4.13.3 Regulatory Setting

Federal

There are no applicable Federal regulations to this issue area.

State

California Housing Element Law

The California Housing Element Law, enacted in 1969, is implemented by the California Department of Housing and Community Development (HCD), one of 13 departments within the California Business, Transportation and Housing Agency. The HCD is responsible for reviewing local government housing elements for compliance with state law and providing written comments to the local government. Using the information provided by local governments in its housing element, the HCD determines the regional housing need for each County and allocates funding to meet this need to the council of governments for distribution to its jurisdictions. The HCD also oversees distribution of funding related to the regional housing need by the council of governments to the local governments to ensure that funds are appropriately allocated.

Local

Kern County General Plan

The project site is in unincorporated Kern County and is subject to the Kern County General Plan. The policies, goals, and implementation measures in the Kern County General Plan for population and housing applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the project. Therefore, they are not listed below, but as stated in Chapter 2, *Introduction*, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

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

1.0 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.

Policies

Policy 6: The County shall ensure the fair treatment of people of all races, cultures, incomes and age groups with respect to the development, adoption, implementation and enforcement of land use and environmental programs.

Policy 7: In administering land use and environmental programs, the County shall not deny any individual or group the enjoyment of the use of land due to race, sex, color, religion, ethnicity, national origin, ancestry, lawful occupation or age.

Policy 8: The County shall ensure that new industrial uses and activities are sited to avoid or minimize significant hazards to human health and safety in a manner that avoids over concentrating such uses in proximity to schools and residents.

Implementation Measures

Implementation Measure A: The Kern Council of Governments (COG) will monitor population growth and its subsequent development effects to identify the distribution of population increases and the capabilities of governmental and public agencies to provide new development with adequate services and facilities in a fiscally acceptable manner.

1.6 Residential*Goals*

Goal 2: Ensure the provision of safe and amenable living environments and the promotion of efficient and economical use of land.

Goal 7: Minimize land use conflicts between residential and resource, commercial, or industrial land uses.

Policies

Policy 3: The owners of individually residentially zoned lots of record will, in any event, retain the right to develop a housing unit structure regardless of the General Plan designation, provided County development ordinance criteria are met.

Policy 5: Discourage premature urban encroachment into areas of intense agriculture areas.

Policy 9: Development in areas without adequate infrastructure or development that places a burden on public services (i.e., fire, sheriff, parks, and libraries) shall be discouraged.

Implementation Measures

Implementation Measure A: All General Plan Amendments, zone changes, conditional use permits, discretionary residential developments of five or more dwelling units, and variations from height limits established by zoning for properties which are located in the Airport Influence Areas or near a military airport shall be reviewed by the Planning Department for compatibility with the Kern County Airport Land Use Compatibility Plan.

Implementation Measure G: Discretionary project applicants shall provide documentation of adequate public infrastructure and services which include, but are not limited to:

1. Fire protection.
2. Police protection.
3. Sewage disposal.
4. Water service including quality and quantity.
5. Documentation that water conservation measures have been considered.

Implementation Measure I: Discretionary projects located within a Moderate, High, or Extreme Fire Hazard Zone shall abide by building materials and construction requirements set forth by the Kern County Fire Department and Office of Emergency Services.

County of Kern 2015–2023 Housing Element Update

The *County of Kern 2015–2023 Housing Element Update* is a separate element of the Kern County General Plan. Each City and County is required by California housing law to develop a housing element, one of the seven general plan elements, in order to qualify for allocation of the state regional housing funding. To receive regional housing funds, each City and County must update its general plan housing element on a regular basis (generally, every 5 years). The housing element must incorporate policies and identify potential sites that would accommodate the City or County's share of the regional housing needs. Because the project would not include new housing, the goals and policies of the Housing Element largely do not apply to the project. The current (as of July 2016) version of the Housing Element was approved on April 26, 2016, and covers the 2015–2023 planning period.

Kern Council of Governments

The Kern Council of Governments (COG) acts as an areawide planning agency. Councils of governments assist local governments with multi-jurisdictional issues such as air quality, energy, housing, transportation, and water quality, and the Kern COG serves this purpose for Kern County. The Kern COG and its member agencies include the County and the 11 incorporated Cities within Kern County (Kern COG 2009). The primary function of the Kern COG is to address regional transportation issues, but it also functions as the state-designated

Census Data Center Affiliate. The Kern COG facilitates comprehensive planning and intergovernmental coordination.

Under the California Housing Element Law, the Kern COG is the regional council of governments responsible for allocating the regional housing need to the County. The Kern COG must identify areas within the region sufficient to house an 11-year projection of the Regional Housing Need Allocation (RHNA). The RHNA must allocate housing units within the region consistent with the development pattern included in the *Regional Transportation Plan and Sustainable Communities Strategy*. Pursuant to California Government Code Section 95584, the RHNA is required by State law and is based on countywide housing projections developed by the HCD. The fifth cycle regional housing needs assessment determination projection period is January 1, 2013, through December 31, 2023. Kern County adopted an update to the Housing Element for this planning period on April 26, 2016.

To do this, the Kern COG developed a Regional Housing Needs Allocation Plan (RHNAP) for the period between 2013 and 2023 (Kern COG 2014). The plan addresses comprehensive housing needs for all income levels in the Kern region. Need is based on available census data, market demand for housing, employment opportunities, the availability of suitable sites, public facilities, commuting patterns, and population projections. Future housing needs refer to the projected amount of housing a community is required to plan for during a specified planning period. The RHNAP supports communities in anticipating growth so that they can grow in a way that enhances quality of life; improves access to jobs, transportation, and housing; and avoids adversely affecting the environment. Each of the local governments has an opportunity to comment on the allocations proposed by the Kern COG.

The Kern COG is required to assign regional housing shares to the Cities within its region on a similar 5-year schedule. The shares of the regional need are allocated before the end of the cycle so that the Cities and Counties can amend their housing elements by the deadline. The Kern COG has determined the additional housing construction needed by 2023 is 67,675 units for the entire County, and 21,583 units for unincorporated areas of the County (Kern COG 2014). The breakdown of housing needs by income category for the unincorporated County is shown in **Table 4.13-5, *Adopted Regional Housing Needs Assessment by Income Category***.

Table 4.13-5 Adopted Regional Housing Needs Assessment by Income Category

Income Category for Unincorporated Areas	Number of Housing Units	Percent of Total RHNA
Very Low Income	4,887	22.6
Low Income	3,108	14.4
Moderate Income	3,127	14.5
Above Moderate Income	10,461	48.5
Total	21,583	31.9

Source: Kern COG 2014

4.13.4 Impacts and Mitigation Measures

This section evaluates the impacts to population and housing that may occur as a result of project implementation. It describes the potential impacts related to population growth associated with construction and operation of the project 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, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

Population, housing, and employment in the area were evaluated by reviewing data available from the U.S. Census Bureau, California DOF, and Kern COG, as well as the *Kern County General Plan*, Kern Economic Development Strategy, and 2014 RHNAP.

The proposed expansion of waste streams allowed for disposal at the landfill facility and the modification to the hours of operation would not result in the need for new employees or displace people or housing; therefore, the impact discussion below focuses on impacts associated with construction and operation of the proposed composting and bioenergy facilities.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County's Environmental Checklist (updated in May 2019) identifies 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 population and housing. Both documents state that a project would normally be considered to have a significant impact related to population and housing if it would:

- a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); or
- b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

Project Impacts and Mitigation Measures

Impact 4.13-1: The project would induce substantial unplanned population growth in an area, either directly or indirectly.

eASP Composting Facility and Bioenergy Facility

The proposed project will require both a temporary construction and permanent operational workforce. This need for employees could potentially induce population growth in the project area, in the event that prospective employees relocate into the area to construct and operate the proposed project.

The project would provide new employment consistent with the adopted Kern County General Plan goals and policies and the Kern COG RHNAP. It is anticipated that approximately 90 temporary workers would be needed to complete construction of the proposed composting and bioenergy facilities. It is expected that the construction workforce would commute from local communities and the number of workers that would relocate to the surrounding area is not expected to be substantial. If temporary housing should be necessary, it is expected that accommodations would be available in the nearby community of Lost Hills or the City of Wasco. Therefore, construction of the project would not directly or indirectly induce the development of any new housing and temporary impacts would be less than significant.

It is estimated that approximately 20 new full-time employees would be needed to operate the new composting and bioenergy facilities and it is likely that new employees would be hired from the local workforce and would not require people to relocate to the area. Given the scope of the existing population and available housing in the area, this increase in employees is not considered significant. Typical established local thresholds of significance for housing and population growth, pursuant to State CEQA *Guidelines* Section 15064.7, include effects that would:

- induce substantial growth or concentration of a population beyond Kern County projections;
- alter the location, distribution, density, or growth rate of the population beyond that projected in the General Plan Housing Element or Kern COG RHNAP;
- result in a substantial increase in demand for additional housing; or
- create a development that significantly reduces the ability of Kern County to meet housing objectives set forth in the General Plan Housing Element or RHNAP.

The effects of the project in relation to these local thresholds would be minimal and impacts related to growth inducement would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.13-2: The project would displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

eASP Composting Facility and Bioenergy Facility

The proposed project would be located within an existing landfill facility, adjacent to an active gypsum mine. There are no residential populations or housing units located within the project sites; the nearest residential units are located approximately 2.3 miles east of the project site at Munger Farms. As such, the proposed project would not displace any existing housing such that it would necessitate the construction of replacement housing elsewhere. Therefore, no impact would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance after Mitigation

No impacts would occur.

Cumulative Setting, Impacts, and Mitigation Measures**Cumulative Setting**

Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. Section 3.8, *Cumulative Effects Overview*, of this EIR discusses cumulative projects near the project (**Table 3-15, Cumulative Projects List**, in Chapter 3 lists specific projects considered in the cumulative impact analysis). The geographic scope for cumulative impacts to population and housing includes past, present, and reasonably foreseeable projects located within the project region.

Impact 4.13-3: The project would contribute to cumulative impacts on population and housing.***eASP Composting Facility, Bioenergy Facility, and Landfill Facility***

Cumulative impacts for a project are considered significant if the incremental effects of the individual projects are considerable when viewed in connection with the effects of past projects and the effects of other projects located in the vicinity of the project site. As discussed above, the project would provide new employment consistent with the adopted Kern County General Plan goals and policies and the Kern COG RHNAP. The project would construct bioenergy and composting facilities. No new residences would be constructed, and the majority of new employees would likely be existing residents in the region; therefore, the project would not increase population or housing stock. It is anticipated that a substantial amount of the required labor force for both construction and operation would be drawn from the surrounding areas. Because the proposed project would not directly induce population growth and there is a high unemployment rate in the county, the proposed project is not anticipated to result in a direct or indirect impact on population and housing, nor is the proposed project anticipated to be growth inducing. Therefore, the proposed project, in conjunction with the current and reasonably foreseeable projects discussed in Chapter 3, *Project Description*, would not contribute to population growth. The employment opportunities provided by the proposed project and other reasonably foreseeable projects would help to provide a balance with the current and projected labor force associated with future conditions. Therefore, cumulative impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Cumulative impacts would be less than significant.

4.14.1 Introduction

This section of the Environmental Impact Report (EIR) describes the affected environment and regulatory setting pertaining to public services, which include fire and police protection, schools, parks, emergency medical services, and other public facilities. This section also addresses the potential impacts on public services that would result from implementation of the proposed project, and the mitigation measures to reduce these potential impacts, where applicable. Information in this section is based on numerous sources, including websites, personal correspondence, and service agency plans.

4.14.2 Environmental Setting

An inventory of public service facilities in the project area is provided in **Table 4.14-1, *List of Public Service Facilities Serving the Project Area***. Table 4.14-1 identifies the agency, facility name, facility address, and approximate distance from the project site.

Table 4.14-1 List of Public Service Facilities Serving the Project Area

Agency	Facility	Address	Approximate Distance from Project Site
<i>Fire/Emergency</i>			
Kern County Fire Department	Station No. 26	14670 Lost Hills Road, Lost Hills, CA 93249	4.8 miles southeast
Kings County Fire Department ¹	Station No. 9	85 Brown Street, Kettleman City, CA 93239	29.7 miles north
<i>Law Enforcement</i>			
Kern County Sheriff's Office	Buttonwillow Substation	181 East First Street, Buttonwillow, CA 93206	23.8 miles southeast
<i>Schools</i>			
Lost Hills Union School District	Lost Hills Elementary School	14823 Office Lane, Lost Hills, CA 93249	4.2 miles southeast
Lost Hills Union School District	A.M. Thomas Middle School	14821 Primary Court, Lost Hills, CA 93249	4.2 miles southeast
<i>Parks</i>			
Kern County Parks & Recreation Department	Lost Hills/Wonderful Park	14688 Lost Hills Road, Lost Hills, CA 93249	4.9 miles southeast
<i>Other Public Facilities</i>			
Kern County Library	Wasco Branch Library	1102 7th Street, Wasco, CA 93280	25.4 miles east

Table 4.14-1 List of Public Service Facilities Serving the Project Area

Agency	Facility	Address	Approximate Distance from Project Site
U.S. Postal Service	Lost Hills Post Office	21155 CA-46, Lost Hills, CA 93249	4.1 miles southeast

¹ The project site is only served by Kings County Fire Department if the Kern County Fire Department is unable to be the primary first responder.

Fire Protection Services

The Kern County Fire Department (KCFD) provides primary fire protection services, fire prevention, emergency medical services, and rescue services to more than 839,000 people in unincorporated areas of Kern County, including arson investigation and hazardous materials coordination. The KCFD operates 46 full-time fire stations and one seasonal station and is divided into seven battalions for operational management. Currently, the KCFD is staffed with 25 battalion chiefs, 169 captains, 162 engineers, 179 firefighters, two fire helicopter pilots, seven fire heavy equipment specialists, one hazardous materials response team, two urban search and rescue teams, and six bulldozer operators. The KCFD is equipped with 55 fire engines, 41 patrols, four trucks, two helicopters, and three aircraft rescue firefighting units (KCFD 2020).

The project sites (Sites A and B) would continue to be served by KCFD Fire Station No. 26 – Lost Hills, located at 14670 Lost Hills Road in the community of Lost Hills, approximately 4.8 miles southeast of the project site. This station would be the primary responder to a fire or emergency at the project sites and would have an approximately 9-minute response time; however, in the event of a major fire, other KCFD stations would be called on to respond, as necessary. According to the California Department of Forestry and Fire Protection (CAL FIRE), the project sites are located within a Local Responsibility Area for fire protection that has been primarily designated as non-wildland/non-urban, though a portion of the site is designated moderate fire hazard (CAL FIRE 2007).

Kern County has mutual-aid agreements with the Kings County Fire Department in the event that the KCFD is unable to be the primary responder of an emergency. The Kings County Fire Department has 10 fire stations located throughout Kings County. The nearest Kings County fire station to the project site is Station No. 9 in Kettleman City, approximately 27 miles northwest of the project sites.

Kern County applies and utilizes the National Fire Code set forth by the National Fire Protection Association, the California Fire Code, the California Building Code, and the Kern County Ordinance Code to regulate fire safety.

Law Enforcement Protection

Kern County Sheriff's Office

The Kern County Sheriff's Office (KCSO) provides basic law enforcement services in the unincorporated areas of the County, including the project area. The KCSO, which enforces Federal, State, and local laws, is responsible for crime prevention, field patrol (ground and air), crime investigation, the apprehension of offenders, regulation of noncriminal activity, and a number of related support services, including patrolling off-highway vehicle recreation areas in the desert and mountainous areas of the County. Traffic and parking control functions are also provided, along with some investigation of property damage reports and traffic accidents. Complete investigations are conducted for injury, fatal, intoxication-related, and hit-and-run accidents.

The KCSO administers police services throughout the County, including jail system management, bailiff and prisoner transportation services to the courts, search and rescue operations, coroner services, and civil processing (serving lawsuit papers). It also operates the Central Receiving Facility, Lerdo Pre-Trial Facility, Lerdo Minimum/Medium Security Facility, Lerdo Maximum Security Facility, Mojave Jail, and Ridgecrest Jail (KCSO 2020).

The KCSO Headquarters are located at 1350 Norris Road in the City of Bakersfield, approximately 43.3 miles southeast of the project sites. In addition, there are 15 substations that provide patrol services and have access to department support services. Currently, the KCSO is staffed with 1,202 sworn and civilian employees, 567 deputy sheriffs, 338 detention deputy positions, and 297 professional support staff (KCSO 2018). Substations are staffed by police, investigators, and supervisors, and each substation has access to all department support services. The nearest substation is the Buttonwillow Substation, located approximately 23 miles south of the project sites at 181 East First Street, Buttonwillow.

The KCSO strives to respond to calls as quickly as possible. Life-threatening calls that involve a danger to someone's personal safety are given priority. Response time is defined as the time required to respond to a call for service, measured from the time a call is received until the time a patrol car arrives at the scene. Response times vary because the nearest responding patrol car may be anywhere in the patrol area and not at the nearest substation. Average response time for the KCSO Buttonwillow City Substation to the project site is 42 minutes or less for an emergency or immediate-response incident (e.g., a crime that is under way and/or a life-or-death situation) and 90 minutes for routine calls (e.g., a crime that has already occurred and/or an incident that is not life-threatening) (KCSO 2020b).

Response time to an emergency at or near the project sites would vary depending on the level of demand at the substation at the time of the call. If demand is high, the response time will be longer than the average times given above. The response time for a non-emergency call could be 8 minutes or more, depending on staffing and the number of other calls for service.

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 agency also provides disaster and life-saving assistance.

The primary purpose of the CHP is to ensure highway safety and provide service to the public. When requested, it assists local governments during emergencies. 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 provides traffic regulation enforcement; oversees response to emergency incidents on California highways, or assists other public agencies responding to emergency incidents; and promotes the safe and efficient movement of people and goods on California highways to minimize loss of life, injuries, and property damage. CHP officers patrol 186,805 miles of roadway and implement the CHP's other law enforcement activities (e.g., vehicle theft investigation and prevention, vehicle inspections, accident investigations, and public awareness campaigns), with the support of the non-uniformed personnel assigned to area and division offices (CHP 2020a).

The CHP is divided into eight divisions that provide services in areas of California. The project site is within the jurisdiction of the Central Division. The Central Division has 15 offices, two commercial vehicle enforcement facilities, and three communications and dispatch centers. The nearest Central Division office to the project site is located near the community of Buttonwillow at 29449 Stockdale Highway, approximately 32 miles southeast of the project sites (CHP 2020b).

Medical Services/Parks/Schools/Other Public Facilities

Emergency Medical Services

The Kern County Emergency Medical Services Division (EMS) is the lead agency for the emergency medical services system in Kern County and is responsible for coordinating all system participants in the County. The EMS includes a system of services organized to provide rapid response to serious medical emergencies, including immediate medical care and patient transport to definitive care in an appropriate hospital setting. An effective EMS System involves a variety of agencies and organizations working together to accomplish the goal of providing rapid emergency medical response and treatment. While most EMS responses are day-to-day emergencies, EMS agencies also plan and prepare for disaster medical response and are involved with preventative health care and managed care in the overall scope of their functions. Participants of the Kern County EMS include the public, fire departments, ambulance companies, other emergency service providers, hospitals, and Emergency Medical Technician (EMT) training programs throughout the County. The department also provides certification and re-certification for EMTs, paramedics, specialized nurses (Mobile Intensive Care Nurse [MICN]), and specialized dispatchers (Emergency Medical Dispatcher [EMD]) (Kern County EMS 2019). The closest hospital to the project site is Adventist Health Delano

Regional Medical Center Hospital in the City of Delano, approximately 41.8 miles northeast of the project sites.

Parks and Recreation

The Kern County Parks and Recreation Department maintains neighborhood and community parks throughout the County, as well as several regional recreation areas. These facilities include scenic and view areas, playgrounds, competitive sports fields, multi-use trails, picnic grounds, campgrounds, water sports, and winter snow sports. In addition, the Kern County Parks and Recreation Department currently operates and maintains 40 neighborhood and community parks in the County. The total area of County neighborhood and community parks is more than 400 acres.

In addition to the neighborhood and community parks, the Kern County Parks and Recreation Department operates several public buildings available for senior, veteran, and recreational purposes. There are several Parks and Recreation Districts that provide facilities for the residents of some communities to supplement Kern County facilities or provide services that are not otherwise offered.

Several incorporated Cities manage park and recreation facilities. The State of California operates three parks in Kern County. The U.S. Forest Service maintains picnic grounds and overnight camping facilities in the Los Padres and Sequoia National Forests. The U.S. Army Corps of Engineers operates and maintains many of the facilities around Lake Isabella Reservoir. The U.S. Bureau of Land Management oversees a campground and other recreational areas, including the Pacific Crest Trail system, through the County.

As shown in **Table 4.14-1**, *List of Public Service Facilities Serving the Project Area*, the nearest park or recreational facility is the Lost Hills/Wonderful Park, which is approximately 4.9 miles southeast of the project sites.

Educational Facilities

The educational system in Kern County for grades K (Kindergarten) through 12 are overseen by the Kern County Board of Education. This is a seven-person board that meets monthly to provide goals and policies to the Superintendent of Schools and the Districts of the County.

There are 35 elementary school districts, eight unified school districts (providing elementary and high school facilities), four high school districts, and two community college districts in Kern County (Kern County Planning and Community Development Department 2004). Additionally, California State University, Bakersfield, which is part of the California State University system, is in southwest Bakersfield. The project sites are located within the Lost Hills Union School District, and Lost Hills Elementary School and A.M. Thomas Middle School are the nearest schools to the project (see **Table 4.14-1**, *List of Public Service Facilities Serving the Project Area*).

Library

The Kern County library system is a countywide system that provides all public library (non-school-based) services in Kern County. It was organized as the Kern County Free Library on July 11, 1911, and currently operates a main library and headquarters facility at Beale Memorial Library in Bakersfield, as well as 24 branches and three bookmobiles, which provide an additional 26 points of service. Branch libraries are generally established as a result of population growth, distance from other branches, and community expansion. The library system is governed by the Kern County Board of Supervisors and is financed by appropriations from County general funds, fines and fees, and State Public Library Fund revenues as provided by State law. (Kern County Planning and Community Development Department 2004.) As shown in **Table 4.14-1**, *List of Public Service Facilities Serving the Project Area*, the nearest library to the project sites is located approximately 25.4 miles to the east in the City of Wasco (Wasco Branch Library).

4.14.3 Regulatory Setting

Federal

There are no applicable Federal regulations to this issue area.

State

California Fire Code

The 2016 California Fire Code establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operation. Chapter 6 (Building Services and Systems) of the Code focuses on building systems and services as they relate to potential safety hazards and when and how they should be installed. Building services and systems are addressed include emergency and standby power systems, electrical equipment, wiring and hazards, and stationary storage battery systems. Chapter 33 (Fire Safety During Construction and Demolition) of the Code outlines general fire safety precautions to maintain required levels of fire protection, limit fire spread, establish the appropriate operation of equipment and promote prompt response to fire emergencies. Features regulated include fire protection systems, fire fighter access to the site and building, means of egress, hazardous materials storage and use and temporary heating equipment and other ignition sources.

California Department of Forestry and Fire Protection (CAL FIRE)

Under Title 14 of the California Code of Regulations (CCR), CAL FIRE has the primary responsibility for implementing wildfire planning and protection for State Responsibility Areas (SRAs). CAL FIRE develops regulations and issues fire-safe clearances for land within a fire

district of the SRA. More than 31 million acres of California's privately owned wildlands are under CAL FIRE's jurisdiction.

CAL FIRE adopted Fire Hazard Severity Zone maps for SRAs in November 2007. Fire Hazard is a way to measure the physical fire behavior so that people can predict the damage a fire is likely to cause. Fire hazard measurement includes the speed at which a wildfire moves, the amount of heat the fire produces, and, most importantly, the burning fire brands that the fire sends ahead of the flaming front. The project site is located within a Local Responsibility Area (LRA) that has been primarily designated as non-wildland/non-urban, though a portion of the site is designated moderate fire hazard (CAL FIRE 2007).

In addition to wildland fires, CAL FIRE's planning efforts involve responding to other types of emergencies that may occur on a daily basis, including residential or commercial structure fires, automobile accidents, heart attacks, drowning victims, lost hikers, hazardous material spills on highways, train wrecks, floods, and earthquakes. Through contracts with local government, CAL FIRE provides emergency services in 36 of California's 58 Counties (CAL FIRE 2020).

Local

Kern County General Plan

The project site is located within the Kern County General Plan. The policies, goals, and implementation measures in the Kern County General Plan applicable to public services as related to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1. Land Use, Conservation and Open Space Element

1.4 Public Facilities and Services

Policies

Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Policy 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

Implementation 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.

Implementation 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.

Implementation 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 ensure the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Chapter 4. Safety Element

4.1 Introduction

Goals

Goal 1: Minimize injuries and loss of life and reduce property damage.

Goal 2: Reduce economic and social disruption resulting from earthquakes, fire, flooding, and other geologic hazards by assuring the continuity of vital emergency public services and functions.

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.

Goal 8: Reduce the public's exposure to fire, explosion, blowout, and other hazards associated with the accidental release of crude oil, natural gas, and hydrogen sulfide gas.

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

Implementation Measure A: Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.

Kern County Fire Department Wildland Fire Management Plan

The KCFD Wildland Fire Management Plan assesses the wildland fire situation throughout the SRA within the County. The Plan includes stakeholder contributions and priorities and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire planning 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 plan also ranks the areas in terms of priority needs and prescribes what can be done to reduce future costs and losses. The KCFD Wildland Fire Management Plan designates a majority of the project sites as being located within Agriculture/Non-Wildland and Moderate fire hazard severity zones by the County (KCFD 2009).

Kern County Fire Code

Chapter 17.32 of the Kern County Municipal Code details the Kern County Fire Code, which is an adoption of the 2016 California Fire Code and the 2015 International Fire Code with some amendments. The purpose of the Kern County Fire Code is to regulate the safeguarding of life, property, and public welfare to a reasonable degree from the hazards of fire, hazardous materials release and/or explosion due to handling of dangerous and hazardous materials, conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of adequate means of egress, and providing for the issuance of permits and collection of permit fees.

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan, adopted in March of 2018 is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire planning area. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2017, included completion of a number of fuel reduction projects, hosted three wildfire safety expos in Battalions 1, 5, and 7, and the award of three SRA fuel reduction grants for a total of \$500,000. The plan gives an overview of KCFD Battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the plan, 69% of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 2 (Western Kern) (KCFD 2009).

Kern County Office of Emergency Services Hazards Mitigation Plan

The purpose of the Kern County Office of Emergency Services (KCOES) Kern Multi-Jurisdictional Hazard Mitigation Plan is to reduce or eliminate long-term risk to people and property from natural hazards and their effects in Kern County. The plan includes specific recommendations for actions that can mitigate future disaster losses, as well as a review of the County's current capabilities to reduce hazards impacts. This multi-jurisdictional plan includes Kern County, and the incorporated municipalities of Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. The plan also covers 53 special districts that include school, recreation and park, water, community service, and other districts. The plan has been formally adopted by each participating entity and is required to be updated a minimum of every 5 years (KCOES 2012).

Capital Improvement Plan

A proposed Countywide Capital Improvement Plan (CIP) was presented to the Kern County Board of Supervisors on October 9, 2007, and adopted in 2008 (Kern County 2007). The CIP represents the best current understanding regarding new public facilities that will be needed to serve projected development in the County through 2030. The scope of services includes parks, libraries, Sheriff's Office (public protection and investigation), fire department, animal control, public health, landfill/transfer facilities, and general government. Roads and sewer costs, as well as related impacts are not part of the CIP. The program includes three phased components:

- **Phase One:** Develop a conceptual CIP for the included facility categories, assessing what additional capacity and conceptual projects are required to provide needed infrastructure for new development through 2030;
- **Phase Two:** Evaluate existing and potential funding sources, and outline options available as financing mechanisms, including a development fee proposal; and
- **Phase Three:** Perform a fiscal (operational) analysis for use in evaluating the ongoing operating and maintenance impact of a new development on the County's general fund.

The adopted CIP includes a summary of proposed service levels for the included facilities and a conceptual list of planned projects upon which the CIP was based.

Public Facilities Mitigation Program

The changing fiscal landscape in California during the past 30 years has steadily undercut the financial capacity of local governments to fund infrastructure. Three dominant trends stand out:

- The passage of a string of tax limitation measures, starting with Proposition 13 in 1978 and continuing through the passage of Proposition 218 in 1996;
- Declining popular support for bond measures to finance infrastructure for the next generation of residents and businesses; and
- Steep reductions in federal and state assistance.

Faced with these trends, Kern County has adopted a policy of “growth pays its own way” through use of a Public Facilities Mitigation Program. The primary policy objective of this program is to ensure that new development pays the capital costs associated with growth. As described above, Kern County adopted a CIP in 2007 that identifies the best current understanding of the public facilities that will be needed to accommodate new development anticipated through 2030. The CIP further identifies appropriate existing facility demand standards to be used as a basis for estimating future facility needs and level of service. The basic purpose of the CIP is to identify the facilities and infrastructure needed to serve the population through 2030.

Continued growth in the County, as well as the impacts resulting from that growth, have increased the demands on countywide public services, making it difficult to implement and fund many of the facilities identified within the CIP while maintaining existing public service demand standards.

The purpose of the Public Facilities Mitigation Program is to identify impacts on public services and to identify the monetary mitigation necessary to provide the facilities associated with that growth. The following categories have been identified to determine which specific public needs are impacted by the project:

- Sheriff patrol and investigation facilities; and
- Fire facilities.

4.14.4 Impacts and Mitigation Measures

This section of the EIR was qualitatively evaluated to determine the impacts relating to public services for the proposed project. Public service systems were evaluated by reviewing the most current data available from State and Kern County department websites, the Kern County General Plan, and the Kern Multi-Jurisdictional Hazard Mitigation Plan (KCOES 2012). It describes the methods used to determine the impacts of the proposed project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, where applicable, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

The methodology used to evaluate fire and law enforcement services impacts includes the following: (1) evaluation of existing fire and law enforcement services and personnel for the fire and law enforcement stations serving the project site; (2) determination of whether the existing fire and law enforcement services and personnel are capable of servicing the project, in addition to the existing population and building stock; and (3) determining whether the project’s contribution to the future service population would cause fire or law enforcement station(s) to operate beyond service capacity. The determination of the significance of the project on fire protection and emergency medical and law enforcement services considers the

level of services required by the project and the ability of KCFD and KCSO to provide this level of service and maintain the regular level of service provided throughout the county, which in turn could require the construction of new or expansion of existing facilities. The methodology for this analysis included a review of published information pertaining to KCFD and KCSO. Using the aforementioned resources and professional judgment, impacts were analyzed according to the CEQA significance criteria described below.

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 State CEQA *Guidelines*, to determine if a project could potentially have a significant adverse effect on public services. The Kern County Environmental Checklist identifies that a project would normally be considered to have a significant impact related to public services if it would:

- a. Result in substantial adverse physical impacts associated with 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 any of the public services:
 - Fire Protection;
 - Police Protection;
 - Schools;
 - Parks; or,
 - Other Public Facilities.

Project Impacts and Mitigation Measures

Impact 4.14-1: The project could result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection 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.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The project sites are not within an area identified as a high or very high fire hazard, as determined by Kern County or CAL FIRE (CAL FIRE 2007). The proposed project includes modification to the existing landfill's CUP to allow for an expansion of waste streams allowed for acceptance at the facility and an increase in the hours of operation; the construction and operation of a composting facility within the existing 331-acre Lost Hills Environmental Landfill; and construction and operation of a 6-acre bioenergy facility within a portion of the Holloway Gypsum Mine. Through design, the existing site includes two access driveways off

Holloway Road (one to the proposed composting operation and one to the proposed bioenergy facility), which facilitate emergency access, and other safety features and plans for fire protection. The proposed project would add approximately 90 temporary workers during project construction and approximately 20 new employees during operation. The proposed project would include emergency access and other safety features and plans for fire protection. The bioenergy facility would also require a firewater and fire protection system be constructed, as shown on **Figures 3-9 through 3-14**, *Bioenergy Facility Site Layout*.

Fire protection facility requirements are based on the number of residents and workers in the KCFD primary service area. Service demand is primarily tied to population, not building size, because emergency medical calls typically make up the majority of responses provided by KCFD. As the number of residents and workers increases, so does the number of emergency medical calls. There are no residential structures within the proposed project boundary, and none would be constructed under the proposed project. Therefore, no residents would occupy the project sites and service demands per resident would not increase.

Service demands per employee are less than service demands per resident; nevertheless, the addition of construction and operational personnel to the project area could result in an increased demand for fire protection services to accommodate fire suppression and emergency medical calls. Implementation of the proposed project would require a temporary workforce to construct the composting and bioenergy facilities and associated improvements. The number of on-site construction workers is expected to be approximately 90. Once operational, the proposed project would require approximately 20 new full-time employees, based on information provided by the project proponent. Construction and operation of the proposed project would generate truck and employee traffic along haul routes and at the project site, which could increase the need for emergency response services.

The KCFD would continue to provide fire protection services to the project sites. The nearest fire station is Station 26 – Lost Hills, located approximately 4.8 miles southeast of the project sites at 14670 Lost Hills Road in the community of Lost Hills, would continue to be the primary station serving the project sites. The KCFD will review the proposed composting facility and bioenergy facility site plans and determine if the facility layout and design provide adequate emergency access and availability of fire water to support the extinguishment of a fire prior to approval of development permits. Implementation of Mitigation Measure MM 4.14-1 (COM, BEF) would ensure payment of development impact fees by the project proponent to compensate for any increase in service demand by the proposed project.

Fire impacts related to hazards and hazardous materials are discussed in Section 4.8, *Hazards and Hazardous Materials*. Fire impacts related to wildfire risk are discussed in Section 4.18, *Wildfire*. As discussed in Section 4.8, *Hazards and Hazardous Materials*, the bioenergy facility would require approximately 10,000 gallons of aqueous ammonia to be stored on-site, along with several other materials including Organic Rankine Cycle (ORC) working fluid, heating oil, and Sorbacal SP (a high surface area hydrated lime). Transportation, storage, use, and disposal/recycling of such products is extensively regulated at the Federal, State, and local levels. Nevertheless, the transportation, storage, and use of hazard materials can result in increased demand for fire protection services, including EMS, due to accidental occupational exposure incidents or accident conditions involving the release of hazardous materials into the

environment. Implementation of Mitigation Measures MM 4.8-1 (COM, BEF), MM 4.8-2 (COM, BEF), MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), and MM 4.8-6 (COM, BEF, LDF), included in Section 4.8, *Hazards and Hazardous Materials*, would require that the project proponent coordinate with the KCFD to verify that certain design and safety requirements have been incorporated for the composting, bioenergy, and landfill facilities. As required by Mitigation Measure MM 4.8-6 (COM, BEF, LDF), included in Section 4.8, *Hazards and Hazardous Materials*, the project proponent would prepare and implement a Fire Prevention Plan that contains notification procedures and emergency fire precautions consistent with the 2016 California Fire Code and Kern County Fire Code. The plan would be for use during construction and operation, and would include emergency fire precautions for vehicles and equipment as well as implement fire rules and trainings so all employees are equipped to handle fire threats. Given the temporary nature of the project's construction phase and implementation of Mitigation Measure MM 4.14-1 (COM, BEF), impacts to fire protection services and facilities during project construction would be less than significant. All maintenance activities would be required to comply with the Fire Prevention Plan implemented per Mitigation Measure MM 4.8-6 (COM, BEF, LDF), included in Section 4.8, *Hazards and Hazardous Materials*, which would help reduce fire risks on site. In addition, all project facilities would be designed and constructed in accordance with the 2016 California Fire Code and Kern County Fire Code such that fire hazards are reduced and/or avoided.

The proposed project could have a significant impact on fire protection services; however, impacts would be less than significant with implementation of Mitigation Measures MM 4.8-1 (COM, BEF), MM 4.8-2 (COM, BEF), MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), and MM 4.8-6 (COM, BEF, LDF), included in Section 4.8, *Hazards and Hazardous Materials*. Implementation of Mitigation Measure MM 4.14-1 (COM, BEF) would ensure payment of development impact fees by the project proponent to compensate for any increase in service demand by the proposed project. Therefore, impacts would be less than significant with mitigation.

Mitigation Measures

Implement Mitigation Measures MM 4.8-1 (COM, BEF) through MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), and MM 4.8-6 (COM, BEF, LDF) (see Section 4.8, *Hazards and Hazardous Materials*, for mitigation measures), in addition to the mitigation measure listed below.

MM 4.14-1 (COM, BEF) Prior to the issuance of grading or building permits, the project proponent shall coordinate with Kern County to determine the need for payment of land development services fees, in accordance with the Kern County Land Development Services Fee Schedule, for impacts to Countywide public protection, sheriff's patrol and investigative services, and fire services. If payment of land development services fees is determined to be required for the project, the project proponent shall submit evidence of payment to the Kern County Planning and Natural Resources Department prior to issuance of grading or building permits.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.8-1 (COM, BEF) through MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), MM 4.8-6 (COM, BEF, LDF), and MM 4.14-1 (COM, BEF), impacts would be less than significant.

Impact 4.14-2: The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered law enforcement facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for law enforcement services.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

KCSO provides primary police protection for the project sites and surrounding areas. The proposed project may attract vandals or present other security risks and increase traffic, which could increase service needs for KCSO; however, the project sites are located in a relatively remote location surrounded by undeveloped land, agriculture, and rural communities, and are unlikely to attract attention that would make proposed project facilities susceptible to crime.

Both residents and workers in unincorporated portions of the County benefit from the patrol and investigation services provided by the KCSO. Demand for such services is related to the County's combined residential and worker populations in the unincorporated areas. Although the potential is low, the proposed project may attract vandals or other security risks that could increase demand on law enforcement services at the proposed project site, when compared to existing conditions.

Based on the site plans prepared for the proposed project, the perimeter of the bioenergy site would be fenced with security fencing approximately 8 feet in height. There is existing barbed wire fencing around the majority of the proposed composting facility, and new barbed wire fencing would be added along the southwest corner. No sidewalks are proposed along Holloway Road or State Route (SR-) 46.

Traffic volumes along Interstate (I-) 5, SR-46, and SR-33 would temporarily increase during construction of the proposed project, associated with 90 temporary construction workers, and would permanently increase during operation of the proposed project associated with 20 new full-time workers. However, project personnel commuting to the project site via existing transportation corridors would be required to adhere to all traffic laws. The added traffic associated with workers commuting to the project site during construction and operation would be along major transportation corridors and would not be expected to adversely affect the KCSO's or CHP's ability to patrol those corridors. The additional traffic is not expected to result in the need for new or altered facilities.

Therefore, new or physically altered KCSO or CHP facilities would not be required to accommodate the limited increase in demand for service associated with the proposed project

and impacts to law enforcement services are expected to be less than significant. As discussed previously, the project proponent would be required to pay a development impact fee assigned pursuant to the adopted CIP in order to mitigate any potential impacts to fire or police protection services resulting from the proposed project. With payment of the required mitigation fee as assessed by the Kern County Planning and Natural Resources Department, any additional fire or police protection services, facilities or personnel required as a result of the proposed project would be appropriately funded. Therefore, impacts would be less than significant with implementation of Mitigation Measure MM 4.14-1 (COM, BEF).

Mitigation Measures

Implement Mitigation Measure MM 4.14-1 (COM, BEF).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.14-1 (COM, BEF), impacts would be less than significant.

Impact 4.14-3: The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered schools, parks, or other public facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

It is anticipated that approximately 90 temporary workers would be needed to complete construction of the project and approximately 20 new full-time employees would be needed to operate the new composting and bioenergy facilities. It is expected that the construction workforce would commute to the site from local communities and the number of full-time workers expected to relocate to the surrounding area is expected to be minimal. There are no residential structures within the project boundary, and none would be constructed under the proposed project. Therefore, implementation of the proposed project is not anticipated to have a significant increase in the number of users at local schools, parks, or other public facilities (e.g., libraries, hospitals, post offices). Impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative Setting

The cumulative study area related to public services is based on the service area for each of the fire and police departments serving the project site. Similar to the proposed project, all of the related projects listed in Chapter 3, *Project Description*, in **Table 3-15, Cumulative Projects List**, of this EIR would be required to pay a development impact mitigation fee, if deemed appropriate by the Kern County Planning and Natural Resources Department or equivalent agency (in the case of fire protection). These projects would also be required to undergo environmental review, in compliance with the requirements of CEQA. Should potential impacts to public services be identified, appropriate mitigation would be prescribed that would reduce impacts to less-than-significant levels.

Impact 4.14-4: The project would contribute to cumulative impacts to public services.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

As discussed previously, the project proponent would be required to pay a development impact fee assigned pursuant to the adopted CIP to mitigate any potential impacts to fire or police protection services resulting from the proposed project. With payment of the required mitigation fee as assessed by the Kern County Planning and Natural Resources Department, any additional fire or police protection services, facilities, or personnel required as a result of the proposed project would be appropriately funded. Therefore, cumulative impacts would be less than significant with implementation of Mitigation Measures MM 4.8-1 (COM, BEF) through MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), and MM 4.8-6 (COM, BEF, LDF), included in Section 4.8, *Hazards and Hazardous Materials*, as well as MM 4.14-1 (COM, BEF).

Mitigation Measures

Implement Mitigation Measure MM 4.14-1 (COM, BEF), as well as Mitigation Measures MM 4.8-1 (COM, BEF) through MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), and MM 4.8-6 (COM, BEF, LDF) (see Section 4.8, *Hazards and Hazardous Materials*, for mitigation measures).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.8-1 (COM, BEF) through MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), MM 4.8-6 (COM, BEF, LDF), and MM 4.14-1 (COM, BEF), cumulative impacts would be less than significant.

4.15.1 Introduction

This section of the Environmental Impact Report (EIR) addresses potential impacts of the project on transportation and traffic and describes the environmental and regulatory settings. Information in this section is primarily based on the *Traffic Study for the Composting and Bioenergy Project* and associated Addendum (Ruetters & Schuler Civil Engineers 2020), included in Appendix I of the EIR.

4.15.2 Environmental Setting

Regional and Local Roadway Facilities

The project sites are located within a rural undeveloped area of northwestern Kern County, north of State Route (SR-) 46 and approximately 4.3 miles northwest of the community of Lost Hills. As described in Chapter 3, *Project Description*, the project sites are comprised of two adjacent sites, Sites A and B, which are separated by Holloway Road. Site A is an existing class III non-hazardous industrial landfill located at 14045 Holloway Road on the west side of Holloway Road at the G P Road junction. Existing landfill operations and the future extended Aerated Static Pile (eASP) composting facility would be sited within Site A. Site B is an equipment staging and storage lot on the east side of Holloway Road, north of G P Road, and would be the future site of the proposed bioenergy facility.

Major Highways and Roadways

Interstate 5 (I-5) would provide access to the general vicinity of the project during the construction and operation phases. I-5 is a major north–south interstate freeway that travels the length of California, connecting the metropolitan regions of Southern and Northern California. In the vicinity of the project site, I-5 is a four-lane freeway (two lanes in each direction). I-5 would be used to interconnect with roadways that would be used to access the project site.

The following is a description of the roadways that would be affected by the project.

- **SR-46** is a two-lane highway in Kern County that begins at SR-99, provides an interchange with U.S. Highway (US) 101 and terminates at SR-1 in San Luis Obispo County. SR-46 provides an important east–west connection between the Central Coast and the San Joaquin Valley. A road widening project to increase SR-46 to a four-lane facility is ongoing between I-5 and the City of Paso Robles.

- **Holloway Road** is a two-lane local roadway with a 60-foot right-of-way and extends north from SR-46 to Twisselman Road. Holloway Road provides access to oil fields and a number of waste facilities, including the Lost Hills Environmental Landfill.

Other roadways in the project vicinity include G P Road, located approximately 250 feet south of Site A, and Brown Material Road, which intersects with the junction of SR-46 and Holloway Road approximately 2.4 miles south of Site A.

According to the California Department of Transportation (Caltrans) California Scenic Highway Mapping System, there are no designated State Scenic Highways within Kern County (see Section 4.15.3, *Regulatory Setting*, for more information on the State Scenic Highway Mapping System).

Alternative Transit Facilities

Non-Motorized Transportation

Bicycling is considered an effective alternative mode of transportation that can help to improve air quality, reduce the number of vehicles traveling along existing roads and highways, and reduce energy consumption. There are 67 miles of existing bicycle facilities in the unincorporated portions of Kern County. There are no dedicated bicycle facilities in the immediate vicinity of the project sites or along the surrounding roadways.

Railways

The closest operated mainline railway is an Amtrak line located approximately 24 miles east of the project sites in the City of Wasco.

Public Transit

Public transportation in Kern County is provided by Kern Regional Transit, which offers 16 fixed routes throughout the County and a dial-a-ride public transportation service for residents in the communities of Frazier Park, Lamont, Mojave, and Rosamond; the City of Tehachapi; and the Kern River Valley (Kern Transit 2020). No public transit routes pass or stop near the project sites.

Airport Facilities

The project sites are not located within a public Airport Land Use Plan area, nor do they fall within any specific airport sphere of influence identified by the Kern County Airport Land Use Compatibility Plan (ALUCP). The project sites are approximately 3.24 miles northwest of the Lost Hills Airport sphere of influence and 4.12 miles from the end of its runway, according to the Kern County Geographic Information System (GIS) data (Kern County 2020).

Site Access

Existing access routes provide access to Site A and Site B via Holloway Road. The project does not include the construction of new access routes.

Existing Traffic Volumes and Levels of Service

Existing peak hour turn movement volumes were performed in August 2018 during the morning peak hour (7:00 a.m. to 8:00 a.m.) and the afternoon peak hour (4:00 p.m. to 5:00 p.m.) at the project study intersections of Brown Material Road/Holloway Road at SR-46 and Holloway Road/SR-46. The study intersections and peak hour volumes are shown on **Figure 4.15-1, Study Intersections and Peak Hour Volumes**. Additionally, traffic counts along Holloway Road between G P Road and SR-46 were conducted between August 21 and 23, 2018. Traffic counts differentiated between vehicle classes (motorcycles, passenger cars, and four-axle trucks) based on the Federal Highway Administration (FHWA) vehicle classifications.

Level of Service and Capacity

Level of Service (LOS) is the generally accepted gauge for describing the quality of operation of either a road segment or street intersection. LOS for every type of roadway or intersection is described thoroughly in the *Highway Capacity Manual* (Transportation Research Board, National Research Council 2010), and brief descriptions are included in **Table 4.15-1, Level of Service for Unsignalized Intersections**, and **Table 4.15-2, Level of Service Descriptions**.

Table 4.15-1 Level of Service for Unsignalized Intersections

LOS	Control Delay (seconds/vehicle)	Expected Delay to Minor Street Traffic
A	<10	Little or no delay
B	>10 and ≤15	Short delays
C	>15 and ≤25	Average delays
D	>25 and ≤35	Long delays
E	>35 and ≤50	Very long delays
F	>50	Extreme delays

Source: Ruetters & Schuler Civil Engineers 2020



Source: Ruettgers & Schuler Civil Engineers, 2018.

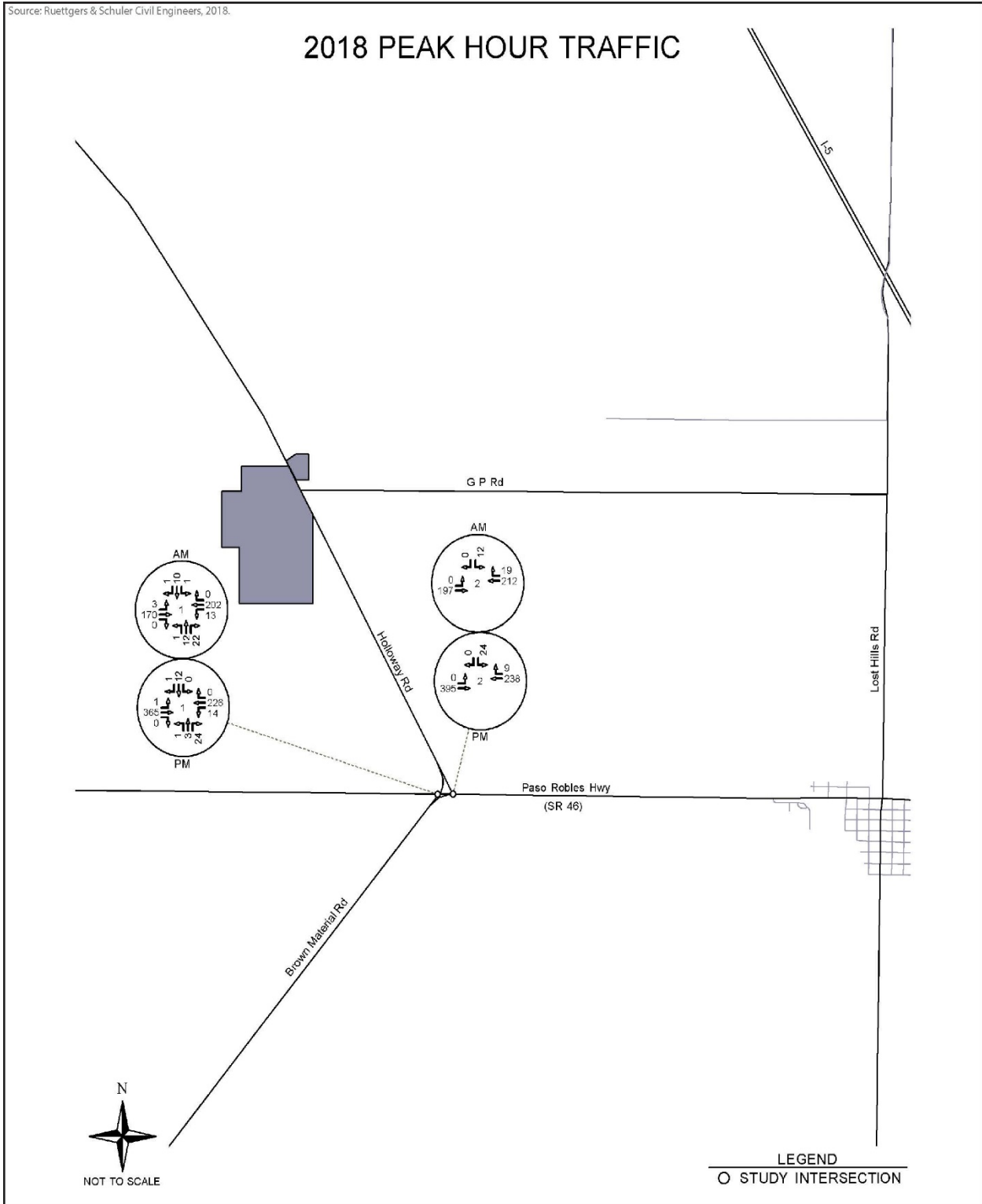


Figure 4.15-1
Study Intersections and Peak Hour Volumes

Table 4.15-2 Level of Service Descriptions

LOS	Description
A	Free flow conditions, unimpeded ability to maneuver and pass, very little delay, no platoons, highest average travel speeds.
B	Mostly free flow conditions; presence of other vehicles begins to be noticeable. Passing is required to maintain speeds, slightly less average travel speeds than LOS A.
C	Traffic density clearly affects the ability to pass and maneuver within the stream. Speeds are reduced to about 50 miles per hour (mph) on highways and to about 50% of the average on urban arterials.
D	Unstable flow. Speeds are reduced from 40% to 60% of normal. Passing demand is high although mostly impossible on two-lane highways. Traffic disruptions usually cause extensive queues.
E	Very unstable flow at or near capacity. Passing and maneuvering virtually impossible. Extensive platooning on highways and queuing on arterials. Speeds range from 20 mph or less on arterials and two-lane highways, and up to 50 mph on multi-lane highways.
F	Forced or breakdown flow. Demand exceeds capacity. Vehicles experience short spurts of movement followed by stoppages. Intersection congestion, long queues, and delays are common.

Source: Transportation Research Board, National Research Council 2010

As shown in **Table 4.15-3, Level of Service for Unsignalized Intersections During AM and PM Hours**, the project study intersections are operating at LOS B as of 2018. Other attributes of operational quality associated with each LOS are volume to capacity (v/c) ratio. As shown in **Table 4.15-4, Roadway Volume and Capacity**, the existing v/c ratio is 0.06. A v/c ratio greater than 0.8 corresponds to an LOS of less than C, as defined in the *Highway Capacity Manual* (Transportation Research Board, National Research Council 2010).

Table 4.15-3 Level of Service for Unsignalized Intersections During AM and PM Hours

Intersection	LOS (2018)
Brown Material Road/Holloway Road at SR-46	B
Holloway Road and SR-46	B

Source: Ruettggers & Schuler Civil Engineers 2020

Table 4.15-4 Roadway Volume and Capacity

Roadway	Volume (2018) ¹	Capacity	v/c ²
Holloway Road (between SR-46 and G P Road)	834 vehicles	1,500 vehicles	0.06

Notes:

¹ Based on traffic counts conducted in August 2018.

² v/c = volume-to-capacity ratio

Source: Ruettggers & Schuler Civil Engineers 2020

4.15.3 Regulatory Setting

Federal

Federal Highway Administration

The FHWA supports State and local governments in the design, construction, and maintenance of the Nation's highway system. The strategic priorities of the administration are national leadership in transportation policy and innovation, effective delivery of the Federal highway programs, improved safety and performance of our Nation's highway systems, and enhancement of administration's corporate capacity to achieve its mission. The administration has developed a vehicle classification scheme that is separated into categories depending on whether the vehicle carries passengers or commodities and on the number of axles for each vehicle. There are 13 distinct vehicle classifications.

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. The following Caltrans regulations apply to potential transportation and traffic impacts of the proposed project:

- **California Vehicle Code (CVC), Division 15, Chapters 1–5 (Size, Weight, and Load):** Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.
- **California Street and Highway Code Sections 660–711, 670–695:** Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery, includes regulations for the care and protection of State and County highways and provisions for the issuance of written permits, and requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.
- **Project Development Procedures Manual, Chapter 27.** Access Control Modification. Requires Caltrans approval of proposed connections to a public road through submittal of a proposal to Caltrans (Caltrans 2016).

Senate Bill 743

Senate Bill (SB) 743 (2013) updates the way transportation impacts are measured in California for new development projects. The bill, which was codified in Public Resources Code section 21099 aims to promote the reduction of greenhouse gas (GHG) emissions, the development of multimodal transportation networks, and a diversity of land uses. To aid in determining the significance of transportation impacts, the California Environmental Quality Act (CEQA) *Guidelines* were amended to identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impact.

Technical Advisory on Evaluating Transportation Impacts in CEQA

The Governor's office of Planning and Research provides a technical advisory that issues technical assistance on issues that affect land use planning and CEQA. The Technical Advisory on Evaluating Transportation Impacts in CEQA (2018) provides technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. Proposed Section 15064.3, subdivision (a) states that VMT refers to on-road passenger vehicles, not heavy-duty trucks.

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan Circulation Element for transportation that are applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development, such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference. The design LOS for Kern County is LOS C. The minimum LOS for conformance with the Kern County General Plan is LOS D.

Chapter 2. Circulation Element

2.1 Introduction

Goals

Goal 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.

Goal 5: Maintain a minimum 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.

2.3 Highways

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 because the road centerline can be determined by an existing survey.

Policy 2: This plan requires, at a minimum, construction of local road widths in areas where the traffic model estimates little growth through and beyond year 2010. Where the Planning 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 (County Standard 110-feet);
- Collector [Secondary Highway] Minimum 90-foot right-of-way (County Standard 90-feet);
- Commercial-Industrial Street Minimum 60-foot right-of-way (County Standard 60-feet);
- Local Street [Select Local Road] Minimum 60-foot right-of-way (County Standard 60-feet).

Implementation Measures

Implementation 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 include road standards related to urban and rural planning requirements. These ordinances also regulate access points. The Planning Department can help developers and property owners 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 California Environmental Quality Act (CEQA) process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space, and Conservation Elements to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build off-site transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.

Policy 4: As a condition of private development approval, developers shall build roads needed to access the existing road network. Developers shall build these roads to County standards unless improvements along State routes are necessary; then roads shall be built to Caltrans standards. Developers shall locate these roads (width to be determined by the Circulation Plan) along centerlines shown on the circulation diagram map unless otherwise authorized by an approved Specific Plan Line. Developers may build local roads along lines other than those on the circulation diagram map. Developers would negotiate necessary easements to allow this.

Policy 5: When there is a legal lot of record, improvement of access to county, city, or State roads will require funding by sources other than the County. Funding could be by starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.

Policy 6: The County may accept a developer's road into the County's maintained road system. This is at Kern County's discretion. Acceptance would occur after the developer follows the above requirements. Roads are included in the County road maintenance system through approval by the Board of Supervisors.

Implementation Measures

Implementation Measure A: The County should relate traffic levels to road capacity and development levels. To accomplish this, the Roads Department and Planning Department should set up a monitoring program. The program would identify traffic v/c ratios and resulting level of service. The geographic

base of the program would be traffic zones set up by Kern Council of Governments (COG).

Implementation Measure C: Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.

2.3.5 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 and, as such, interstate trucking is not under the direct control of County officials. In as much as this traffic affects County residents and taxpayers, they need actions to guarantee State highways in Kern County receive a fair share of California's transportation investment.

Goals

Goal 1: Provide for Kern County's heavy truck transportation in the safest way possible.

Goal 2: Reduce potential overweight trucks.

Goal 3: Use State Highway System improvements to prevent truck traffic in neighborhoods.

Policies

Policy 1: Caltrans should be made aware of the heavy truck activity on Kern County's roads.

Policy 2: Start a program that monitors truck traffic operations.

Policy 3: Promote a monitoring program of truck lane pavement condition.

2.3.10 Congestion Management Programs

State law requires that urbanized counties prepare an annual congestion management program (CMP). County and City eligibility for new gas tax subventions is contingent upon their participation in the CMP. To qualify for funding provided through the Federal Transportation Improvement Program (FTIP) or the State Transportation Improvement Program (STIP), the regional transportation agency must keep current a Regional Transportation Program (RTP) that contains the CMP. Also, the CMP offers local jurisdictions the opportunity to find cooperative solutions to the multi-jurisdictional problems of air pollution and traffic congestion.

The CMP has links with air quality requirements. The California Clean Air Act requires that cities and counties implement transportation control measures (TCMs) to attain, and maintain, the State air quality standard.

Goals

Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern Council of Government's Congestion Management Program.

Goal 2: To coordinate congestion management and air quality requirements and avoid multiple and conflicting requirements.

Policies

Policy 1: Pursuant to California Government Code 65089(a), Kern County has designated Kern Council of Governments as the County's Congestion Management Agency (CMA).

Policy 2: The Congestion Management Agency is responsible for developing, adopting, and annually updating a Congestion Management Plan. The Plan is to be developed in consultation with, and with the cooperation of, the regional transportation agency (also Kern Council of Governments), regional transportation providers, local governments, Caltrans, and the air pollution control district.

Implementation Measures

Implementation Measure A: Kern County Council of Governments should request the proper consultation from County of Kern to develop and update the proper congestion management program.

Implementation 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.

Chapter 4. Safety Element

4.6 Wildland and Urban Fire

Policies

Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.

Kern Council of Governments

Kern COG is a Federally designated Metropolitan Planning Organization (MPO) and a State-designated Regional Transportation Planning Agency (RTPA). These designations formally establish Kern COG's role in transportation planning. Kern COG's Board of Directors

comprises elected representatives from the 11 incorporated Cities and two members of the County Board of Supervisors. A Memorandum of Understanding between Kern COG and Caltrans District 6 also provides for a Transportation Planning Policy Committee, which is the existing Board plus ex officio members from Caltrans, Kern County's military bases, and Golden Empire Transit District. The Transportation Technical Advisory Committee (TTAC), composed of technical staff from member agencies, other interested agencies, public members, Caltrans, and the San Joaquin Valley and Kern County Air Districts, provides support to the Board of Directors. In addition, the Social Services Transportation Advisory Committee also provides support to the Board of Directors by focusing on the needs of transit-dependent and transit disadvantaged persons, including the elderly, disabled, and persons of limited means.

Kern Council of Governments Congestion Management Program

All urbanized areas with a population larger than 200,000 residents are required to have a congestion management system, program, or process. The Kern COG refers to its congestion management activities as the CMP. Kern COG was designated as the Congestion Management Agency.

The CMP provides a systematic process for managing congestion and information regarding (1) transportation system performance, and (2) alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet State and local needs. The purpose of the CMP is to ensure that a balanced transportation system is developed that relates population growth, traffic growth, and land use decisions to transportation system 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.

Kern County Regional Transportation Plan

The latest RTP was prepared by Kern COG and was adopted August 16, 2018. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. It has been developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between Federal, State, regional, and local agencies. Included in the 2018 RTP is the Sustainable Communities Strategy (SCS) required by California's Sustainable Communities and Climate Protection Act of SB 375. The California Air Resources Board (CARB) set Kern County GHG emissions reductions from passenger vehicles and light-duty trucks at 5% per capita by 2020 and 10% per capita by 2035, as compared to 2005. In addition, SB 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation (RHNA), ensuring consistency between low-income housing need and transportation planning. Kern COG engaged in the RHNA process concurrently with the development of the 2014 RTP. This process required Kern COG to work

with its member agencies to identify areas within the region that can provide sufficient housing for all economic segments of the population and ensure that the State's housing goals are met.

The intent of the SCS is to achieve the State's emissions reduction targets for automobiles and light trucks. The SCS also provides opportunities for a stronger economy, healthier environment, and safer quality of life for community members in Kern County. The RTP/SCS seeks to improve economic vitality, improve air quality, improve the health of communities, improve transportation and public safety, promote the conservation of natural resources and undeveloped land, increase access to community services, increase regional and local energy independence, and increase opportunities to help shape the community's future.

The 2018 RTP/SCS financial plan identifies the amount of money available to support the region's transportation investments. The plan includes a core revenue forecast of existing Federal, State, and local sources along with funding sources that are considered to be reasonably available over the time horizon of the RTP/SCS. These new sources include adjustments to Federal and State gas tax rates based on historical trends and recommendations from two national commissions (the National Surface Transportation Policy and Revenue Study Commission and the National Surface Transportation Infrastructure Financing Commission), leveraging of local sales tax measures, local transportation impact fees, potential national freight program/freight fees, future State bonding programs, and mileage-based user fees.

The 2018 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 highway capacity. The Constrained Program of Projects includes projects that move the region toward a financially constrained and balanced system. Constrained projects have undergone air quality conformity analysis to ensure that they contribute to the Kern County region's compliance with Federal and State air quality rules.

Kern County Airport Land Use Compatibility Plan

The Kern County ALUCP establishes procedures and criteria to assist Kern County and affected incorporated cities in addressing compatibility issues between airports and surrounding land uses. The project site is not located within a designated Airport Land Use Compatibility zone.

4.15.4 Impacts and Mitigation Measures

This section evaluates the impacts related to traffic and transportation that may occur during construction and operation of the project. It describes the vehicle trips and transportation infrastructure associated with the project 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, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

The transportation and traffic analysis presented in this section is based largely on the *Traffic Study for the Composting and Bioenergy Project* and associated Addendum (Ruetters & Schuler Civil Engineers 2020), included in Appendix I of the EIR. The analysis considers the potential for increases in motor vehicle trips associated with operation of the project to degrade traffic LOS resulting in or contributing to unacceptable conditions. Construction of the project facilities would generate traffic in volumes less than operational activities. As such, construction-related traffic is not analyzed in this EIR, as operational-related traffic represents the worst-case scenario traffic impacts.

The analysis was conducted using Synchro 9 software from Trafficware. This software utilizes the 2010 capacity analysis methodology in the Transportation Research Board's *Highway Capacity Manual* (Transportation Research Board, National Research Council 2010). The analysis was performed for the following traffic scenarios:

- Existing traffic volumes (2018)
- Existing plus project generated traffic volumes (2018)
- Future traffic volumes (2040)
- Future plus project traffic volumes (2040)

The transportation and traffic analysis also evaluated peak hour signal warrants for each project study unsignalized intersection to determine whether the proposed project would result in the need for intersection signalization. The analysis was based on the *California Manual on Uniform Traffic Control Devices* (CA MUTCD) (Caltrans 2020). The CA MUTCD lists minimum signal warrants, which have been adopted by Caltrans and most California agencies, including Kern County. These warrants consist of evaluation of various criteria that have been determined as critical for the installation of a signal.

Caltrans controls all of the study locations and relies on LOS to determine deficiencies. Caltrans strives to maintain operations at the LOS C/D threshold on State-operated facilities. If an existing State highway facility is operating at LOS D, E, or F, the existing measure of effectiveness should be maintained. Significant impacts to Caltrans facilities are identified if operations degrade from LOS C or better to LOS D, E, or F, or proposed project traffic is added to an intersection or segment operating at LOS D, E, or F. The Kern County Circulation Element identifies LOS D as the minimum acceptable traffic level for Kern County-maintained roads.

An evaluation of VMT for project traffic was conducted based on applicable CEQA guidelines. The analysis involved a review and estimate of VMT attributable to the project and assessed whether project VMT would result in a significant transportation impact.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist (updated 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 on transportation and traffic. Both documents state that a project would normally be considered to have a significant impact related to transportation and traffic if it would:

- a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- b. Conflict or be inconsistent with State CEQA *Guidelines* Section 15064.3 (b);
- c. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- d. Result in inadequate emergency access.

Project Impacts and Mitigation Measures

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.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

Trip Generation

Trip generation for the project was estimated based on the number of additional trucks that would be required to accommodate the proposed CUP modifications for the landfill facility and for construction and operation of the proposed composting and bioenergy facilities. As shown in **Table 4.15-5, *Project Trip Generation***, the composting and bioenergy facilities would require approximately 125 new trucks. Information provided by Lost Hills Environmental, LLC regarding truck and facility operations was used to estimate the Average Daily Trips (ADT) and AM and PM peak hour trip volumes. These peak hour volumes were based on an even distribution of the 125 new trucks operating for 24 hours per day. Operation of the composting and bioenergy facilities would generate a total of five truck trips during both the AM and PM peak hours, as summarized in Table 4.15-5.

Table 4.15-5 Project Trip Generation

Trip Type	# of Vehicles	ADT	AM Peak Hour ¹		PM Peak Hour ¹	
			In	Out	In	Out
Trucks	125	250	5	5	5	5

¹ Based on five trucks entering and exiting the facility per hour during hours of operation.
Source: Ruetters & Schuler Civil Engineers 2020

Trip Distribution and Assignment

Project traffic would utilize Holloway Road to connect to SR-46, which would provide access to US 101 and I-5. It was assumed that 82% of the project traffic would travel east to I-5 and the remaining 18% would travel west to US 101. **Figure 4.15-2, Project Peak Hour Traffic**, illustrates the project traffic distribution.

Level of Service Analysis

When combined with existing roadway operating conditions (as previously described in Section 4.15.2, *Environmental Setting*), project trip volumes would not cause an unacceptable degradation of operating conditions below LOS C. Project study intersections would continue to operate at LOS B during the AM peak hour (**Table 4.15-6, AM Unsignalized Intersection Level of Service**) and would decrease to LOS C during the PM peak hour (refer to **Table 4.15-7, PM Unsignalized Intersection Level of Service**). However, the decline in operating conditions from LOS B to LOS C during the PM peak hour is attributed to future growth rates in the County and would occur irrespective of the project.

Table 4.15-6 AM Unsignalized Intersection Level of Service

Intersection	Movement	2018	2018 Plus Project	2040	2040 Plus Project
Brown Material Road/Holloway Road at SR-46	Northbound	B	B	B	B
	Southbound	B	B	B	B
Holloway Road and SR-46	Southbound	B	B	B	B

Source: Ruettggers & Schuler Civil Engineers 2020

Table 4.15-7 PM Unsignalized Intersection Level of Service

Intersection	Movement	2018	2018 Plus Project	2040	2040 Plus Project
Brown Material Road/Holloway Road at SR-46	Northbound	B	B	B	B
	Southbound	B	B	C	C
Holloway Road and SR-46	Southbound	B	B	C	C

Source: Ruettggers & Schuler Civil Engineers 2020

Traffic Signal Warrant Analysis

Non-signalized intersections within the project vicinity were analyzed for satisfaction of the Peak Hour Volume Warrant as described in Section 9 of the CA MUTCD. The CA MUTCD prescribes “tests” that are conducted to determine the need for installation of a traffic signal; these tests are referred to as “warrants.” The CA MUTCD lists minimum signal warrants, which have been adopted by Caltrans and most California agencies, including Kern County. These warrants consist of evaluation of various criteria that have been determined as critical for the installation of a signal.

In actual practice, justification for signal installation is usually based on satisfaction of several warrants, as well as poor LOS for multiple movements. In keeping within the scope of the traffic study, non-signalized intersections were evaluated for signalization, including expansion of the intersection, based solely on satisfaction of the Peak Hour Signal Warrant described in the CA MUTCD.

It is important to note that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above an acceptable LOS or operate below an acceptable LOS and not meet signal warrant criteria. As shown in **Table 4.15-8, AM Traffic Signal Warrants**, and **Table 4.15-9, PM Traffic Signal Warrants**, there was not an intersection scenario, present day or future, that met the minimum thresholds to warrant a traffic signal.

Roadway Capacity Analysis

When combined with existing roadway operating conditions (as previously described in Section 4.15.2, *Environmental Setting*, project trip volumes would not cause an increase in the v/c ratio beyond 0.8, which corresponds to an LOS of less than C, as defined in the *Highway Capacity Manual (Table 4.15-10, Roadway Volume and Capacity)*.

Impact Determination

Mitigation is normally considered necessary if a particular intersection or street segment under any existing or future scenario (with or without the addition of project-generated traffic) is anticipated to function at less than LOS C. Generally, the objective of traffic mitigation is to restore LOS to a C or better. As previously discussed, operation of the proposed project facilities would require 125 new trucks operating 24 hours per day and would result in 250 ADT. Existing plus the proposed project traffic volume would not degrade the performance of the study intersections or segment of Holloway Road below LOS C. Therefore, the project has no obligation to fund any improvements that enhance or improve LOS. All intersections would operate with an acceptable LOS during peak hours in the existing year and future year with the addition of project traffic and would not warrant a traffic signal. Additionally, the proposed modification to the existing landfill CUP to allow for operations to occur 24 hours per day, 365 days per year, would reduce the amount of daytime traffic associated with landfill operations.

There are no pedestrian or public transit facilities in the vicinity of the project. No elements of the project that would conflict with alternative transportation programs have been identified; therefore, the project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, or pedestrian facilities. Impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Table 4.15-8 AM Traffic Signal Warrants

Intersection	2018			2018 Plus Project			2040			2040 Plus Project		
	Total Volume		Warrant Met	Total Volume		Warrant Met	Total Volume		Warrant Met	Total Volume		Warrant Met
	Major Street	Minor Street		Major Street	Minor Street		Major Street	Minor Street		Major Street	Minor Street	
Brown Material Road/ Holloway Road at SR-46	388	35	No	389	35	No	538	49	No	539	49	No
Holloway Road and SR-46	428	12	No	432	16	No	593	17	No	597	21	No

Source: Ruettggers & Schuler Civil Engineers 2020

Table 4.15-9 PM Traffic Signal Warrants

Intersection	2018			2018 Plus Project			2040			2040 Plus Project		
	Total Volume		Warrant Met	Total Volume		Warrant Met	Total Volume		Warrant Met	Total Volume		Warrant Met
	Major Street	Minor Street		Major Street	Minor Street		Major Street	Minor Street		Major Street	Minor Street	
Brown Material Road/ Holloway Road at SR-46	606	28	No	607	28	No	840	38	No	841	38	No
Holloway Road and SR-46	642	24	No	646	28	No	890	33	No	894	37	No

Source: Ruettggers & Schuler Civil Engineers 2020

Table 4.15-10 Roadway Volume and Capacity

Roadway	2018	Project ADT	2040 ADT	2040 Plus Project	Existing Capacity	v/c existing	v/c existing 2018 plus project	v/c existing 2040	v/c existing 2040 plus project
Holloway Road (between SR-46 and G P Road)	834	250	1,289	1,539	15,000	0.06	0.07	0.09	0.10

Source: Ruettggers & Schuler Civil Engineers 2020

Level of Significance

Impacts would be less than significant.

Impact 4.15-2: The project would conflict or be inconsistent with CEQA Guidelines Section 15064.3.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

As discussed under Impact 4.15-1, the project is estimated to require 125 new trucks operating 24 hours per day, which would generate 250 ADT, including five AM peak hour trips and five PM peak hour trips. Operation of the project would result in approximately 100.25 average one-way VMT for truck trips (see the *Traffic Study for the Composting and Bioenergy Project Addendum* in Appendix I of this EIR).

The *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Governor's Office of Planning and Research 2018) provides the following guidance for evaluating projects that include heavy truck traffic:

Vehicle Types. Proposed Section 15064.3, subdivision (a), states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks.

The statements from the advisory indicate that heavy truck trips, such as those trips generated by the project, are not subject to VMT analysis, thresholds, or reduction requirements as part of the CEQA review process. Rather, VMT analysis for the purposes of identifying potentially significant impacts under CEQA are for use in evaluating office, residential, and retail projects. Therefore, the project trips, by definition, do not create a significant impact with regards to VMT. Impacts would be less than significant.

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 design feature.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The proposed project would generate new truck trips associated with delivering compost and feedstock materials. Trucks would access the project sites from Holloway Road, which is

already utilized by large tractor-trailer trucks associated with mining and landfill activities occurring within the project vicinity. From Holloway Road, project trucks would access the proposed facilities using existing access routes: Site A would be accessible from three existing entrance/exit points on the west side of Holloway Road that currently serve as access points to the existing landfill facility, and Site B would be accessible from existing entrance/exit points on the east side of Holloway Road that currently serve as access points for the equipment staging and storage lot.

To facilitate safe ingress/egress from Holloway Road to Site A, Mitigation Measure MM 4.15-1 (COM) has been identified to require acquisition of an encroachment permit, which would require construction of an asphalt concrete paved private road approach along the Holloway Road frontage.

The *Traffic Study for the Composting and Bioenergy Project* prepared for the proposed project (Ruetters & Schuler Civil Engineers 2020), found the structural integrity of the existing pavement along Holloway Road in the direct vicinity of the project would not be adequate to accommodate the increase in truck traffic generated by the project. As such, Mitigation Measure MM 4.15-2 (COM) has been identified to require construction of a 0.1-foot asphalt overlay approximately 13,200 feet from SR-46 to the entrance of Site A to ensure adequate structural integrity of the roadway.

If oversized vehicles are used during construction or operation activities, a safety hazard to the public could occur by limiting motorist views on roadways and by the obstructing space, which is considered a potentially significant impact. Therefore, Mitigation Measure MM 4.15-3 (COM, BEF) would require that all oversize vehicles used on public roadways during construction obtain required permits and that the project proponent obtain approval of a Construction Traffic Control Plan, which would identify anticipated construction delivery times and vehicle travel routes in advance to minimize construction traffic during AM and PM peak hours. This would ensure that construction-related oversize vehicle loads are in compliance with applicable California Vehicle Code sections and California Street and Highway Codes applicable to licensing, size, weight, load, and roadway encroachment of construction vehicles.

As described in Impact 4.15-1, the project would not substantially increase traffic volumes. Further, Mitigation Measure MM 4.15-4 (COM, BEF) would ensure that the volume of truck trips generated during operational activities are within the parameters described above in Impact 4.15-1. With implementation of Mitigation Measures MM 4.15-1 (COM), MM 4.15-2 (COM), MM 4.15-3 (COM, BEF), and MM 4.15-4 (COM, BEF), the project would not contribute to an increase in hazards due to a design feature; therefore, impacts would be less than significant.

Mitigation Measures

MM 4.15-1 (COM) Prior to construction of Phase 1 of the composting facility, the project proponent shall obtain an encroachment permit from the Kern County Public Works Department requiring construction of an asphalt-concrete paved private road approach along the Holloway Road Frontage. The location of access will

be approved by the Kern County Public Works Department prior to construction.

MM 4.15-2 (COM) Prior to construction of Phase 3 of the composting facility, the project proponent shall obtain an encroachment permit from the Kern County Public Works Department requiring construction of a 0.1-foot asphalt-concrete overlay approximately 13,200 feet from State Route 46 to the project entrance on Holloway Road, per *Kern County Zoning Ordinance* Section 19.80.030 and Traffic Index calculations provided in the *Traffic Study for the Composting and Bioenergy* (Ruetters & Schuler Civil Engineers 2020).

MM 4.15-3 (COM, BEF) Prior to the issuance of construction or building permits, the project proponent/operator shall:

- a. Prepare and submit a Construction Traffic Control Plan to the Kern County Public Works Department – Development Review and the California Department of Transportation District 6 offices, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must address, at a minimum, the following issues:
 1. Timing of deliveries of heavy equipment and building materials;
 2. Directing construction traffic with a flag person;
 3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
 4. Ensuring access for emergency vehicles to the project site;
 5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
 6. Maintaining access to the adjacent property; and
 7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hours.
- b. Obtain all necessary encroachment permits for the use of oversized/overweight vehicles that will utilize Kern 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 California Department of Transportation, Kern County Planning and Natural Resources Department, and Kern County Public Works Department – Development Review.

- c. Enter into a secured agreement with Kern County to ensure that any Kern 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 Kern County- and non-Kern County-maintained roads that demonstrably 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 Planning and Natural Resources Department and Kern County Public Works Department – Development Review.
- e. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to Kern County. This information shall be submitted in DVD format. Kern County, in consultation with the project proponent/operator’s engineer, shall determine project responsibility for the damage and the extent of remediation required, if any.

MM 4.15-4 (COM, BEF) The project proponent shall submit annual truck traffic counts to the Kern County Planning and Natural Resources Department for mitigation monitoring.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.15-1 (COM), MM 4.15-2 (COM), MM 4.15-3 (COM, BEF), and MM 4.15-4 (COM, BEF), impacts would be less than significant.

Impact 4.15-4: The project would result in inadequate emergency access.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The project sites are located in a rural area with the primary access roads allowing adequate egress/ingress to the sites in the event of an emergency. Therefore, construction and operation of the project would not physically interfere with emergency vehicle access or personnel evacuation from the site.

As described above, increased project-related traffic would not cause a significant increase in congestion and/or significantly worsen the existing operating conditions on area roads; therefore, project-related traffic would not affect emergency access to the project site or any

other surrounding location. The project would not require closures of public roads, which could inhibit access by emergency vehicles. For these reasons construction and operation would have a less-than-significant impact on emergency access.

While impacts would be less than significant, Mitigation Measure MM 4.15-3 (COM, BEF) would provide further assurances for emergency access by requiring the preparation of a Construction Traffic Control Plan that considers access for emergency vehicles to the project site.

Mitigation Measures

Implement Mitigation Measure MM 4.15-3 (COM, BEF).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.15-3 (COM, BEF), impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative Setting

Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. Section 3.8, *Cumulative Effects Overview*, of this EIR discusses cumulative projects near the project. (**Table 3-15, *Cumulative Projects List***, in Chapter 3, *Project Description*, lists specific projects considered in the cumulative impact analysis). The geographic scope for cumulative transportation and traffic impacts is Kern County as a whole. This geographic scope of analysis is appropriate for transportation and traffic due to the regional nature of transportation and traffic impacts that could occur within the entire Kern County transportation network. Cumulative conditions represent build-out of the land uses in the region, reflecting a 2040 horizon year.

Impact 4.15-5: The project would contribute to cumulative transportation and traffic impacts.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

Future development in Kern County would result in additional vehicle trips and contribute to congestion on local roadways that would likely be traveled by vehicles associated with the project. In addition, future residential development of Kern County would increase the overall number of vehicle trips within the County through the increase in population. As discussed under Impact 4.15-1, the traffic impact analysis of horizon year 2040 considers the potential for regional growth. Thus, the analysis and conclusions under Impact 4.15-1 also reflect a cumulative analysis and the project would not result in a significant contribution to LOS deficiencies in the surrounding road network. Further, as described under Impact 4.15-2, project-generated trips would not create a significant impact with regards to VMT. As

described under Impacts 4.15-3 and 4.15-4, project-generated truck traffic would utilize existing access routes, would not alter or block any existing emergency access routes, or change existing patterns of emergency access. The composting facility would require implementation of Mitigation Measures MM 4.15-1 (COM), MM 4.15-2 (COM), MM 4.15-3 (COM, BEF), and MM 4.15-4 (COM, BEF), which require roadway improvements, implementation of a Construction Traffic Control Plan, and the submittal of annual truck traffic counts. The bioenergy facility would require implementation of Mitigation Measures MM 4.15-3 (COM, BEF) and MM 4.15-4 (COM, BEF), which require implementation of a Construction Traffic Control Plan and the submittal of annual truck traffic counts. Implementation of these mitigation measures would ensure project impacts related to hazards associated with design features would be reduced to less than significant. Therefore, the project would not contribute considerably to a cumulative transportation impact and cumulative impacts would be less than significant with mitigation.

Mitigation Measures

Implement Mitigation Measures MM 4.15-1 (COM), MM 4.15-2 (COM), MM 4.15-3 (COM, BEF), and MM 4.15-4 (COM, BEF).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.15-1 (COM), MM 4.15-2 (COM), MM 4.15-3 (COM, BEF), and MM 4.15-4 (COM, BEF), impacts would be less than significant.

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Tribal Cultural Resources

4.16.1 Introduction

This section of the Environmental Impact Report (EIR) provides an assessment of potential impacts related to tribal cultural resources that could result from implementation of the proposed project. The analysis in this section is based on the results of the Native American consultation conducted by Kern County for purposes of compliance with California Environmental Quality Act (CEQA) requirements prompted by Assembly Bill (AB) 52.

4.16.2 Environmental Setting

Refer to Section 4.4, *Cultural Resources*, of this EIR for a greater discussion of the tribal cultural resources environmental setting.

Existing Tribal Cultural Resources

Native American Correspondence and AB 52 Consultation

The California Native American Heritage Commission (NAHC) was contacted on June 8, 2020, to request a search of its Sacred Land File (SLF) for any recorded sacred sites or Native American heritage sites within 0.5 mile of the project sites (Sites A and B). The NAHC responded via a letter dated June 9, 2020, stating that the search results were negative, indicating no recorded Native American cultural resources are present within the project sites or in the immediate vicinity.

On October 24, 2019, Kern County sent consultation notification letters via certified mail to Native American groups on Kern County's Master List pursuant to the requirements of AB 52 pertaining to government-to-government consultation. **Table 4.16-1, *Summary of AB 52 Consultation Efforts***, summarizes Kern County's consultation efforts to date. To date, Kern County has received one response. In response to Kern County's AB 52 notification, the San Manuel Band of Mission Indians Tribal Archaeologist, Alexandra McCleary, stated in an email dated November 1, 2019, that the proposed project is located outside of the Serrano ancestral territory and, as such, the San Manuel Band of Mission Indians will not be requesting consulting party status for this project. No other responses were received.

Table 4.16-1 Summary of AB 52 Consultation Efforts

Tribe/Organization	Consultation Type	Date Letter Mailed	Response Received
San Manuel Band of Mission Indians	AB 52	10/24/19	The Tribe responded in an email dated November 1, 2019, that the project area is located outside of Serrano ancestral territory.
Tejon Indian Tribe	AB 52	10/24/19	No response
Torres Martinez Desert Cahuilla Indians	AB 52	10/24/19	No response
Twenty-Nine Palms Band of Mission Indians	AB 52	10/24/19	No response

4.16.3 Regulatory Setting

Federal

There are no applicable Federal regulations to this issue area.

State

Native American Heritage Commission

Public Resources Code (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.

Assembly Bill 52 and Related Public Resources Code Sections

AB 52 was approved by California State Governor Edmund Gerry “Jerry” Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent (NOI) to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR) or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a Lead Agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources

update to Appendix G of the State CEQA *Guidelines*, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a Lead Agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the Lead Agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the Lead Agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the Lead Agency's formal notification and the Lead Agency must begin consultation within 30 days of receiving the Tribe's request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project's impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American Tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the Lead Agency, or otherwise failed to engage in the consultation process, or if the Lead Agency has complied with Section 21080.3.1(d) and the California Native American Tribe has failed to request consultation within 30 days, the Lead Agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American Tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the Lead Agency or any other public agency to the public without the prior consent of the Tribe that provided the information. If the Lead Agency publishes any information submitted by a California Native American Tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the Tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Local

There are no applicable local regulations to this issue area.

4.16.4 Impacts and Mitigation Measures

This section evaluates the impacts to tribal cultural resources that may occur during construction and operation of the project. It describes the potential tribal cultural resources located on and adjacent to the project sites 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, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

The proposed project's potential impacts to tribal cultural resources have been evaluated by conducting an SLF search for any recorded sacred sites or Native American heritage sites within 0.5 mile of the proposed project and contacting Native American groups and individuals pursuant to AB 52 to solicit information regarding the presence of tribal cultural resources. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

The proposed expansion of waste streams allowed for disposal at the landfill facility and the modification to the hours of operation would not result in new ground disturbance which could result in impacts related to tribal cultural resources; therefore, the impact discussion below focuses on impacts associated with construction and operation of the proposed composting and bioenergy facilities.

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 State CEQA *Guidelines*, to determine if a project could potentially have a significant adverse effect related to tribal cultural resources.

A project would have a significant impact on tribal cultural resources if it would:

- 1) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in 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 CRHR, or in a local register of historical resources defined in PRC Section 5020.1 (k); or
 - b) A recourse 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.

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 CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k).

eASP Composting Facility and Bioenergy Facility

As previously described in Section 4.16.2, *Environmental Setting*, the SLF search did not indicate the presence of tribal cultural resources within or immediately adjacent to the project sites. Further, Kern County sent tribal consultation letters to four tribal groups pursuant to AB 52 on October 24, 2019. Only one Tribe—the San Manuel Band of Mission Indians—responded to Kern County’s AB 52 notification, stating on November 1, 2019, that the proposed project is located outside of the Serrano ancestral territory and, as such, the Tribe will not be requesting consulting party status for this project. No other responses were received.

The project sites are highly disturbed, support an existing landfill facility that was previously mined (Site A) and an equipment laydown and storage area (Site B), and are subject to ongoing ground-disturbing activities. All project activities would occur within existing disturbed and developed areas. It is unlikely that any surface tribal cultural resources would be present within these disturbed areas due to previous and ongoing ground-disturbing activities. While no tribal cultural resources have been identified within or immediately adjacent to the project sites, a potential (albeit low) possibility remains that ground-disturbing project activities could result in the inadvertent discovery of a previously unidentified tribal cultural resource.

As discussed in Section 4.4, *Cultural Resources*, ground-disturbing activities associated with construction and operation of the proposed composting facility would occur within existing disturbed soils and would not extend below natural grade; therefore, inadvertent impacts to unknown buried resources, if present, would not occur. Nonetheless, the potential (albeit low) remains that ground-disturbing project activities associated with construction of the proposed bioenergy facility within Site B could result in the inadvertent discovery of a previously unidentified tribal cultural resource.

Implementation of Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF), included in Section 4.4, *Cultural Resources*, would reduce potential impacts to tribal cultural resources resulting from construction of the composting and bioenergy facilities to a less-than-significant level. These measures require cultural resources sensitivity training for construction workers, appropriate treatment of unearthened cultural resources during construction, and proper procedures for recording and treating human remains if discovered during project construction. With implementation of Mitigation Measures MM 4.4-1 (BEF)

through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF), included in Section 4.4, *Cultural Resources*, impacts to listed or eligible tribal cultural resources would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF) (see Section 4.4, *Cultural Resources*, for mitigation measures).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF), 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.

eASP Composting Facility and Bioenergy Facility

As noted above, no tribal cultural resources were identified through the SLF search or through tribal consultation efforts, and tribal cultural resources are not expected to be present within the project sites due to previous and ongoing ground-disturbing activities. However, unknown buried tribal cultural resources could still be inadvertently discovered during ground-disturbing project activities. Implementation of Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF), included in Section 4.4, *Cultural Resources*, would reduce potential impacts to a less-than-significant level.

Mitigation Measures

Implement Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF) (see Section 4.4, *Cultural Resources*, for mitigation measures).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF), impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative Setting

The geographic scope for cumulative impacts to tribal cultural resources consists of all projects located within a 6-mile radius of the proposed project, as well as all similar (i.e., landfill, composting and/or bioenergy) projects within Kern County. Analysis of cumulative impacts takes into consideration the entirety of impacts that the projects discussed in Section 3.8, *Cumulative Effects Overview*, would have on cultural resources. The geographic area of analysis for tribal cultural resources includes the Southern San Joaquin Valley. This geographic scope of analysis is appropriate because the resources within this area are expected to be similar to those that may occur within the project area because of their proximity, their similarities in environments and landforms, and their location within the same Native American tribal territories. This is a large enough area to encompass any effects of the project on tribal cultural resources that may combine with similar effects caused by other projects and provides a reasonable context wherein cumulative actions could be cumulatively considerable and affect tribal cultural resources.

Impact 4.16-2: The proposed project would contribute to cumulative cultural resources impacts.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

Multiple projects, including mining, solar, telecommunication infrastructure, and commercial development are proposed throughout the Southern San Joaquin Valley. Cumulative impacts to tribal cultural resources in the Southern San Joaquin Valley could occur if other related projects, in conjunction with the proposed project, had or would result in impacts to tribal cultural resources that, when considered together, would be significant.

Potential impacts of the project to tribal cultural resources, in combination with other projects in the area, could contribute to a cumulatively significant impact due to the overall loss of resources unique to the region. However, as discussed above, no tribal cultural resources have been identified within or in the vicinity of the project sites and the project would not result in a significant impact to tribal cultural resources with implementation of prescribed mitigation measures. Therefore, the project's incremental effect is not cumulatively considerable when considered with the effects of other closely related past projects, the effects of other current projects, and the effects of probable future projects. Thus, the project would not have a cumulatively considerable contribution to impacts to tribal cultural resources with the implementation of Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF), included in Section 4.4, *Cultural Resources*, and cumulative impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF) (see Section 4.4, *Cultural Resources*, for mitigation measures).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.4-1 (BEF) through MM 4.4-3 (BEF) and MM 4.4-4 (COM, BEF), cumulative impacts would be less than significant.

Utilities and Service Systems

4.17.1 Introduction

This section of the Environmental Impact Report (EIR) describes the affected environment and regulatory setting pertaining to utilities and service systems, which include water, wastewater, stormwater drainage, solid waste, electricity, telephone, and natural gas. Each subsection includes descriptions of existing facilities, service standards, potential impacts, and mitigation measures, where applicable. This section addresses water only in terms of supply services. Hydrology and water quality are covered in Section 4.9, *Hydrology and Water Quality*, of this EIR. The analysis in this section is based in part on information provided in *Lost Hills Phase I Environmental Site Assessment for Approximate 6-acre Proposed Bioenergy Facility Site* (Advanced Environmental Concepts, Inc. [AEC] 2020), included as Appendix G.1, and *Lost Hills Environmental LLC – Composting and Waste to Energy Project Water Supply Assessment* (WSA) prepared for the project (Bowman 2020), included as Appendix J.

4.17.2 Environmental Setting

Water Supply

There are typically three sources of supply water: (1) natural sources; (2) manmade sources; and (3) reclamation. Natural sources include rivers, lakes, streams, and groundwater stored in aquifers. Manmade sources include runoff water that is treated and stored in reservoirs and other catchment structures. Reclaimed water is wastewater that has been conveyed to a treatment plant and then treated to a sufficient degree that it may again be used for certain uses (such as irrigation). Reclaimed water is not potable (drinkable) and must be conveyed in a separate system in order to ensure that there is no possibility of direct human consumption.

Since groundwater quality within the project area is of very poor quality, the area must rely totally on imported surface water supplies for potable water needs.

Groundwater Supply

There are no groundwater recharge facilities near the project area. Groundwater is not utilized by the existing landfill facility and none would be utilized by the proposed project. There are no groundwater production wells located in the vicinity of the project site. There are 12 groundwater monitoring wells located within the 331-acre landfill facility—three are currently associated with Pit E, four are associated with Pit F, and five are associated with Pit G. The Pit FG Connection Area is covered by wells associated with both Pits F and G.

The site is within the San Joaquin Valley Groundwater Basin, which is one of 12 distinct groundwater basins of the Tulare Lake Hydrologic Region. The project site is not located within any water district boundary.

The project site is in the Kern County subbasin, a portion of the larger San Joaquin Valley Basin (Basin No. 5-22) as designated by the California Department of Water Resources (DWR) (DWR 2006). The Kern County subbasin (Basin No. 5-22.14) is defined by the Kern County line to the north, the granitic bedrock of the Sierra Nevada foothills and Tehachapi Mountains to the east and southeast, and the marine sediments of the Coast Ranges and San Emigdio Mountains to the west and southwest. The subbasin covers more than 3,000 square miles of the southern end of the valley, and about half of this area overlays usable groundwater (DWR 2006).

The Kern County subbasin's water-bearing units consist, from youngest to oldest, of younger alluvium/floodplain deposits, older alluvium/stream deposits, the Tulare and Kern River formations, and the Olcese and Santa Margarita formations. The older alluvium/stream deposits and the underlying Tulare and Kern River formations form the primary aquifers in the subbasin. Municipal/irrigation wells are up to 1,200 feet deep and yield up to 4,000 gallons per minute (GPM) (DWR 2006).

Natural recharge occurs through stream seepage along the eastern side of the subbasin and from the Kern River. Recharge also occurs from irrigation return flows and managed aquifer recharge programs (DWR 2006). DWR has implemented the California Statewide Groundwater Elevation Monitoring (CASGEM) program. Through CASGEM, California's basins and subbasins are prioritized as very low, low, medium, or high in terms of select criteria such as reliance on groundwater, number of wells and population, irrigated acreage, and groundwater impacts. The Kern County subbasin was assigned a high CASGEM groundwater priority ranking.

The Kern County subbasin is identified by the Sustainable Groundwater Management Act (SGMA) as critically overdraft and subject to SGMA regulations. The Kern Groundwater Authority (KGA) was formed on April 26, 2017, to manage the basin, including preparation and implementation of the required GSP (Aquilologic, Inc. 2019).

Groundwater Quality

A general measure of groundwater quality is total dissolved solids (TDS). For drinking water purposes, water with a TDS concentration of 500 milligrams per liter (mg/L) or less is recommended, but can be usable up to 1,000 mg/L. Water quality in the western side of the basin contains primarily sodium sulfate and calcium-sodium sulfate. The shallow nature of the groundwater in the western portion of the basin results in elevated TDS concentrations. TDS concentrations in the Kern County subbasin average between 400 and 450 mg/L but can be up to 5,000 mg/L (DWR 2006).

Groundwater underlying the project site is not potable, nor does it have any current or anticipated beneficial uses due to the availability of an alternate water supply, and the high concentrations of TDS, selenium, manganese, chloride, sulfate, and chromium. This

groundwater exceeds agricultural water quality goals for chloride, molybdenum, selenium, specific conductance, and TDS designated by the Regional Water Quality Control Board (RWQCB) in the Tulare Lake Basin Plan. All available data on groundwater quality indicates (1) a very neutral pH, and (2) water of a very poor quality, with TDS levels generally in the range of 3,000 to 9,000 milligrams per kilogram (mg/kg) (parts per million [ppm]).

Surface Water

Since groundwater quality in the project area is of very poor quality, the area must rely entirely on imported surface water supplies. The closest permanent source of surface water to the project site is the California Aqueduct, which runs roughly parallel to the project sites approximately 2.25 miles to the southeast, across the Lost Hills Anticline.

There are no perennial surface waters in the area due to the sparse rainfall in this arid region. One ephemeral drainage was identified in the western portion of the project site, and appears to have been disturbed historically and channelized (McCormick Biological Inc 2020). Pits E, F, and G of the existing landfill lie just within the swale formed by the intersection of the east–northeasterly sloping Antelope Plain and the west–southwestern slope of the Lost Hills Anticline. These pits are subject to 100-year sheet flow runoff predominately from the west–southwest. In particular, runoff from Bitterwater Creek can reach the project area in a 100-year storm. A portion of the adjacent mine area was inundated during the floods of 1968–1969. Sheet flow runoff due to super-saturation in the coastal range immediately to the west occurs once every 7 to 10 years. The mine area naturally drains to the south–southeast end of the swale, to the north along Holloway Road, and to the northeast–east via geologic channels [(through Section [S] 24, Township [T] 26S, Range [R] 20E and S30, T26S, R21E (Mount Diablo Base and Meridian [MDB&M])].

Summary of Existing Water Use

The existing landfill does not utilize groundwater, but imports surface water from the Berrenda Mesa Water District (BMWD) through their agreement with Blackwell Land Company, Inc. The BMWD has a contract with the Kern County Water Agency from which it receives California State Water Project (SWP) water. The BMWD supplies water to Blackwell Land Company, Inc. (Paramount Farms), with whom the project proponent has a contract in the amount of 50 acre-feet per year (AFY) to meet the water needs of the existing operation. Water for landfill operations, approximately 50 AFY, is used almost exclusively for dust control on the haul roads and is typically not placed on the accepted fill material, regardless of waste type (Bowman 2020). Potable water for drinking is brought in via an outside source.

Additional water needed for composting operations and the bioenergy facility would be supplied to the project site by the Buena Vista Water Storage District (BVWSD) through a transfer with BMWD. The BVWSD is an agricultural water purveyor located on the west side of the southern San Joaquin Valley. The BVWSD controls an average entitlement of approximately 150,000 AFY of surface water from the Kern River, along with an additional entitlement of approximately 21,300 AFY from the State Water Project (BVWSD 2020). Additional water demands are met by pumping groundwater from district wells. The BVWSD is a member of the Buena Vista Groundwater Sustainability Agency (BVGSA). The BVGSA

recently completed a Groundwater Sustainability Plan (GSP) to satisfy the requirements of the SGMA (Bowman 2020). It is anticipated that BVWSD's entitlement to Kern River through the year 2070 is expected to average 147,000 AFY. BVWSD's entitlement to SWP water is expected to be 10,700 AFY by the year 2030 and 9,642 AFY by the year 2070. Projected totals account for reductions in future supply due to climate change (Bowman 2020).

The BMWD provides irrigation water to customers from the SWP. The BMWD controls an average entitlement of approximately of 92,800 AFY of water from the SWP (BMWD 2020). The BMWD is a member of the Westside District Water Authority (WDWA), a subset of water districts within the KGA. A GSP was prepared for the WDWA as a chapter of the larger KGA GSP to satisfy the requirements of the SGMA.

Wastewater

The Kern Sanitation Authority provides maintenance and wastewater service for Kern County. The project sites are not supported by Kern Sanitation Authority infrastructure. Any wastewater generation in the project area would need to be collected in an individual septic system. Currently, restroom facilities for the landfill and gypsum mine operations are in the H.M. Holloway offices, just north of Site B. These restrooms are served by a private on-site septic system at the shop/scale house. Portable toilet facilities are available in the active landfill areas and are disposed of at an approved disposal site.

An elongated concrete-constructed wash pad that is bermed and improved with an excess water drain is located within the northwest portion of Site B (AEC 2020). Trucks are washed after returning from deliveries and the rinse water is typically retained on the concrete slab or drained onto the adjoining soil surface and subsequently evaporated (AEC 2020). Water for this use is provided by subsurface piping connected to a water tank on the northern adjoining offsite Holloway yard (AEC 2020).

The existing landfill site has a 10,000-gallon rinsate wastewater tank to contain recirculated wastewater from washing of equipment and biosolids delivery trucks. The existing landfill includes a leachate collection sump and a leachate collection and removal system drainage layer consisting of one or more of the following: appropriate selection of geologic materials, a geonet/geocushion, and an operations layer designed to protect the leachate collection and removal system. Site A does not contain any existing wastewater facilities.

Stormwater Drainage

As discussed in Chapter 3, *Project Description*, the climate in the area is semi-arid with total annual precipitation over the past 30 years averaging about 5.7 inches with a range of 1 to 14 inches. Rainfall occurs generally between the months of January and March. Occasional thunderstorms may occur in August, but do not account for much of the annual precipitation. Winter months are mild with temperatures averaging 20 degrees Fahrenheit (°F) to 50°F. Summers are harsh and dry with temperatures ranging from 60°F to over 100°F.

The topography of the project area is relatively flat, with gently rolling slopes located in the Antelope Plain, approximately 16.5 miles east of the Temblor Mountain Range. The elevation

in the project area ranges from approximately 370 to 500 feet above mean sea level (amsl). The disposal pits lie just west of the swale formed by the intersection of the easterly sloping Antelope Plain and the westerly slope of the Lost Hills Oil Field. The pits are subject to sheet flow runoff predominately from the west–southwest. A portion of the mine area was inundated during the floods of 1968–1969. However, to eliminate runoff to any pit during the course of historic/past landfilling operations, a 6- to 7-foot continuous earthen berm was constructed along the rim or perimeter of each pit. According to the most recent Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the area, the project sites are located outside of an identified flood zone.

Solid Waste

Solid waste generally refers to garbage, refuse, sludge, and other discarded solid materials that are generated by residential, industrial, and commercial activities. Construction, demolition, and inert wastes are also classified as solid waste. Such wastes include nonhazardous building materials such as asphalt, concrete, brick, drywall, fencing, metal, packing materials, pallets, pipe, and wood. The general waste classifications used for California waste management units, facilities, and disposal sites are outlined below. Nonhazardous solid waste consists of organic and nonorganic solid, semi-solid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes, and other discarded waste, provided that such wastes do not contain hazardous materials or soluble pollutants in concentrations that would exceed applicable water quality objectives or cause a degradation of waters of the state.

California state law regulates the types of waste that can be disposed of at the different classes of landfills:

- Class I landfills may accept hazardous and nonhazardous wastes;
- Class II landfills may accept designated and nonhazardous wastes; and
- Class III landfills may accept nonhazardous wastes.

Kern County is responsible for meeting the California Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939). AB 939 required Counties and Cities to reduce the amount of solid waste being sent to landfills by 50% by January 1, 2000. It also required Counties and Cities to prepare solid waste planning documents. These documents include the Source Reduction and Recycling Element (SRRE), the Household Hazardous Waste Element (HHWE), and the Nondisposal Facility Element (NDFE). All three of these documents, as well as the Integrated Waste Management Plan, approved February 1998 by the California Integrated Waste Management Board (CIWMB; now California Department of Resources Recycling and Recovery [CalRecycle]), have been approved for Kern County. The Kern County Integrated Waste Management Plan is the long-range planning document for landfill facilities.

Construction and demolition (C&D) waste is heavy, inert material. This material creates significant problems when disposed of in landfills. Because C&D waste is heavier than paper

and plastic, it is more difficult for counties and cities to reduce the tonnage of disposed waste. For this reason, C&D waste has been specifically targeted by the State of California for diversion from the waste stream. Projects that generate C&D waste should emphasize deconstruction and diversion planning rather than demolition. Deconstruction is the planned, organized dismantling of a prior construction project, which allows maximum use of the deconstructed materials for recycling in other construction projects and sends a minimum amount of the deconstruction material to landfills.

The Kern County Public Works Department (KCPWD) provides the management of liquid and solid waste. Kern County currently operates seven recycling and sanitary landfills, nine transfer stations, and one bin site (KCPWD 2020). Waste streams arrive at disposal sites through either residential/urban collection or through transportation of waste by individuals to the sites. Accepted waste streams include appliances, construction material, dead animals, electronics, furniture, green waste, general waste, tires, treated wood, and used motor oil. The Shafter-Wasco Landfill is the closest to the project sites, 25.6 miles to the southeast. Due to the nature of the project, any project-generated waste streams not deemed hazardous would be disposed of on-site. Discussion of the exact methods of disposal can be referenced in Chapter 3, *Project Description*, of this EIR.

Sewage sludge is a product of wastewater treatment that occurs on the project site. “Sewage sludge” is defined by Federal regulations as the “solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in treatment works.” More generally, sewage sludge refers to the mud-like deposit originating from sewage and created by the treatment processes used to decontaminate wastewater before it is released to local waterways. Sewage sludge typically consists of water and 2 to 28% solids. The resultant solids are referred to as biosolids.

The existing landfill facility is approved to accept fly ash, lime cake, auto shredder waste, spent sandblast media, and Class A and B dewatered biosolids. The proposed composting facility would also accept biosolids, which would contribute towards meeting California’s diversion mandate Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989) and AB 341, as described below in Section 4.17.3, *Regulatory Setting*.

Electrical Service

Electrical service is currently provided to the H.M. Holloway offices, just north of Site B, through connection to the Pacific Gas & Electric (PG&E) distribution system. Powerlines extend along Holloway Road via an overhead connection.

Natural Gas

PG&E and the Southern California Gas Company (SoCalGas), a subsidiary of Sempra Energy, are the natural gas providers in Kern County; however, there is no known natural gas service to the project sites. SoCalGas transmission lines and high-pressure distribution lines are located approximately 0.8 mile northwest of the H.M. Holloway offices (SoCalGas 2020).

4.17.3 Regulatory Setting

Federal

National Pollution Discharge Elimination System Permit

Discharge of treated wastewater to surface waters of the United States, including wetlands, requires a National Pollutant Discharge Elimination System (NPDES) permit. In California, the RWQCBs administer the issuance of these Federal permits. Obtaining an NPDES permit requires preparation of detailed information, including characterization of wastewater sources, treatment processes, and effluent quality.

Because the site is larger than 1 acre, it requires compliance with NPDES criteria, including preparation of a Storm Water Pollution Prevention Plan (SWPPP) and the inclusion of best management practices (BMPs) to control erosion and off-site transport of soils. Additional information on the project's NPDES permitting requirements, as well as SWPPP requirements, is presented in Section 4.10, *Hydrology and Water Quality*.

40 Code of Federal Regulation Part 503

The U.S. Environmental Protection Agency (USEPA) issued regulations found in 40 Code of Federal Regulation (CFR) Part 503 in response to Clean Water Act (CWA) Section 405(d), which requires the USEPA to establish requirements and management practices for the use and disposal of sewage sludge.

Different rules for the treatment of different classes of biosolids are provided in 40 CFR Part 503. Class A biosolids contain no detectible levels of pathogens and must meet strict vector attraction reduction requirements and low levels of metals content. The metals content requirements under the Part 503 Rule are the same for Class A and Class B biosolids. The Part 503 Rule refers to the section in 40 CFR where various standards related to pathogens and metals in biosolids are codified and regulated. Class B biosolids are treated but still contain detectible levels of pathogens. There are buffer requirements, public access restrictions, and crop harvesting restrictions for Class B biosolids. In order to qualify as "exceptional quality" biosolids, Class A biosolids must meet both the fecal coliform and *Salmonella* sp. bacteria limits contained in Alternatives 1 through 6 of 40 CFR 503.32(a). Exceptional quality biosolids have lower metals concentration requirements than either Class A or Class B biosolids and have the same pathogen levels as Class A biosolids.

State

Regional Water Quality Control Board

The primary responsibility for the protection of water quality, including stormwater, in California rests with the State Water Resources Control Board (SWRCB) and nine RWQCBs, collectively called the California Water Boards. The SWRCB sets statewide policy for the implementation of Federal and State laws and regulations. The RWQCBs adopt and implement

Water Quality Control Plans (Basin Plans), which recognize regional differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities. The project site is within the jurisdiction of the Central Valley RWQCB.

California Department of Water Resources

The DWR is responsible for protecting, conserving, developing, and managing much of California's water supply. These duties include preventing and responding to floods, droughts, and catastrophic events; informing and educating the public on water issues; developing scientific solutions; restoring habitats; planning for future water needs, climate change impacts, and flood protection; constructing and maintaining facilities; generating power; ensuring public safety; and providing recreational opportunities.

California Water Code Section 13260

California Water Code Section 13260 requires any person who discharges waste, other than into a community sewer system, or who proposes to discharge waste that could affect the quality of waters of the State to submit a report of waste discharge to the applicable RWQCB. Any actions of the projects that would be applicable under California Water Code Section 13260 would be reported to the Central Valley RWQCB.

Senate Bills 610 (Chapter 643, Statutes of 2001) and 221 (Chapter 642, Statutes of 2001)

Senate Bill (SB) 610 and SB 221 are companion measures that seek to promote more collaborative planning among local water suppliers and Counties and Cities. They require that water supply assessment occur early in the land use planning process for all large-scale development projects. If groundwater is the proposed supply source, the required assessments must include detailed analyses of historic, current, and projected groundwater pumping and an evaluation of the sufficiency of the groundwater basin to sustain a new project's demands. They also require an identification of existing water entitlements, rights, and contracts and a quantification of the prior year's water deliveries. In addition, the supply and demand analysis must address water supplies during single and multiple dry years presented in 5-year increments for a 20-year projection.

An SB 610 WSA must be prepared if the following three conditions are met:

1. The project is subject to the California Environmental Quality Act (CEQA) under Water Code Section 10910;
2. The project meets criteria to be defined as a "Project" under Water Code Section 10912; and,
3. The applicable water agency's current Urban Water Management Plan (UWMP) does not account for the water supply demand associated with the project.

A project would meet the definition of “project” per Water Code Section 10912 if it is:

1. A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area; and
2. A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project (DWR 2003).

The projected water supply may be determined to be sufficient or insufficient for the proposed project, per Water Code Section 10910, if the projected water demand associated with the proposed project was not accounted for in the most recently adopted UWMP. If the public water system has no UWMP, the water assessment for the proposed project shall include a discussion with regard to whether the public water system’s total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection.

Sustainable Groundwater Management Act

The SGMA was enacted by the State in 2014 and requires that by January 31, 2020, “basins that are subject to critical conditions of overdraft shall be managed under a groundwater sustainability plan.” The SGMA provides for the establishment of groundwater sustainability agencies (GSAs) that are meant to develop GSPs to monitor and regulate the interests of all beneficial uses and users of groundwater within each plan’s management area. The Kern County subbasin is considered to be in a state of critical overdraft by the DWR. As such, groundwater use in the subbasin must be regulated by one or more GSPs by the end of January 2020. The SGMA requires that a GSP achieve “sustainable groundwater management” and avoid “undesirable results,” defined under Water Code Section 10721(w) as meaning: chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply; significant and unreasonable reduction of groundwater storage; significant and unreasonable seawater intrusion; significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies; significant and unreasonable land subsidence that substantially interferes with surface land uses; and/or surface water depletions that have significant and unreasonable adverse impacts on beneficial uses of surface water. The BVGSA recently completed a GSP to satisfy the requirements of the SGMA.

California Department of Resource, Recycling, and Recovery

On January 1, 2010, California’s recycling and waste diversion efforts were streamlined into the new CalRecycle. CalRecycle manages programs created through two landmark initiatives, the Integrated Waste Management Act and the Beverage Container Recycling and Litter Reduction Act, which were formerly part of the CIWMB and the California Department of Conservation (CDOC). Now housed in the California Natural Resources Agency, CalRecycle merges the duties of the board with those of the CDOC’s Division of Recycling to best protect public health and the environment by effectively and efficiently managing California’s waste disposal and recycling efforts (CalRecycle 2010a).

CalRecycle is currently comprised of two program divisions: Waste Management and Recycling. The Division of Waste Management continues to promote the goals of Zero Waste California in partnership with local government, industry, and the public. The division manages the approximate 93 million tons of waste generated each year by reducing waste whenever possible, decreasing greenhouse gas emissions, promoting the management of all materials to their highest and best use, and regulating the handling, processing, and disposal of solid waste. California now diverts more than half of its waste away from landfills (CalRecycle 2010a). The Integrated Waste Management Act of 1989 (Public Resources Code [PRC] 40050 et seq. or AB 939, codified in PRC 40000), administered by CalRecycle, requires all County and local governments to adopt a Source Reduction and Recycling Element to identify means of reducing the amount of solid waste sent to landfills. This law set reduction targets at 25% by the year 1995 and 50% by the year 2000. To assist local jurisdictions in achieving these targets, the California Solid Waste Reuse and Recycling Access Act of 1991 requires all new developments to include adequate, accessible, and convenient areas for collecting and loading recyclable and green waste materials.

Integrated Solid Waste Management Act of 1989 (PRC 40050 et seq.) or Assembly Bill 939

Pursuant to the California Integrated Solid Waste Management Act of 1989, all jurisdictions in California are required to reduce the amount of solid waste disposed in landfills. AB 939 required a reduction of 25% by 1995 and 50% by 2000. Contracts that include work that will generate solid waste, including construction and demolition debris, have been targeted for participation in source-reduction, reuse, and recycling programs. The project proponent is urged to manage solid waste generated by the work to divert waste from disposal in landfills (particularly Class III landfills) and maximize source reduction, reuse, and recycling of construction and demolition debris.

Public Resources Code Section 41820.5 through 41822

PRC Sections 41820.5 through 41822 require jurisdictions to submit a report to CalRecycle summarizing its progress in reducing solid waste. The report must contain a variety of information such as calculations of annual disposal reduction, a summary of progress made in implementing the source reduction and recycling element and the household hazardous waste element, and other information relevant to waste reduction and diversion.

Senate Bill 1383

SB 1383 approved November 3, 2020 and set to go into effect January 1, 2022, which establishes targets to achieve a 50% reduction in the level of the statewide disposal of organic waste by 2020 and a 75% reduction by 2025. The law provides CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20% of edible food that is currently disposed of is recovered for human consumption by 2025.

Assembly Bill 341

Since the passage of AB 939, diversion rates in California have been reduced to approximately 65%, the statewide recycling rate is approximately 50%, and the beverage container recycling rate is approximately 80%. In 2011, the State passed AB 341, which established a policy goal that a minimum of 75% of solid waste must be reduced, recycled, or composted by the year 2020. The State provided the following strategies to achieve that 75% goal:

1. Moving organics out of the landfill;
2. Expanding the recycling/manufacturing infrastructure;
3. Exploring new approaches for state and local funding of sustainable waste management programs;
4. Promoting state procurement of post-consumer recycled content products; and
5. Promoting extended producer responsibility.

To achieve these strategies, the State recommended legislative and regulatory changes, including mandatory organics recycling, solid waste facility inspections, and revising packaging. With regard to construction and demolition, the State recommended an expansion of the State of California Green Building Code (known as CALGreen) standards that incentivize green building practices and increase diversion of recoverable construction and demolition materials. Current standards require 50% waste diversion on construction and some renovation projects, although this may be raised to 65% for nonresidential construction in upcoming changes to the standards. The State also recommends promotion of the recovery of construction and demolition materials suitable for reuse, compost, or anaerobic digestion before residual wastes are considered for energy recovery.

California Solid Waste Reuse and Recycling Access Act of 1991 (PRC Chapter 18)

The California Solid Waste Reuse and Recycling Access Act 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 Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California.

California Energy Commission

The California Energy Commission (CEC) regulates the provision of natural gas and electricity within the State. The CEC is the State's primary energy policy and planning agency. Created in 1974, the CEC has five major responsibilities: forecasting future energy needs and keeping historical energy data, licensing thermal power plants 50 megawatts (MW) or larger, promoting energy efficiency through appliance and building standards, developing energy technologies and supporting renewable energy, and planning for and directing the State response to energy emergencies.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises. In 1911 the CPUC was established by Constitutional Amendment as the Railroad Commission. In 1912 the Legislature passed the Public Utilities Act, expanding the Commission's regulatory authority to include natural gas, electric, telephone, and water companies, as well as railroads and marine transportation companies. In 1946 the Commission was renamed the California Public Utilities Commission. It is tasked with ensuring safe, reliable utility service is available to consumers, setting retail energy rates, and protecting against fraud.

Local

San Joaquin Valley Air Pollution Control District

Rule 4565

On March 15, 2007, the San Joaquin Valley Air Pollution Control District (SJVAPCD) adopted Rule 4565 pertaining to biosolids management. This rule governs land application, alternate daily cover, and composting and regulates the use of animal manures. One outcome of the rule is that it eliminates the option of using biosolids or biosolids-derived material as landfill alternate daily cover within the SJVAPCD boundaries, unless the operator has received an Authority to Construct (ATC) permit authorizing such cover. It should be noted that the current project is not utilizing biosolids for alternative daily cover during disposal operations. This rule also requires that biosolids accepted for disposal at a landfill facility shall either be buried within 24 hours of receipt, or else covered temporarily with a tarp or earthen fill. It should be noted the proposed project would be complying with this requirement to control excess volatile organic compound (VOC) emissions.

Rule 4566

On August 18, 2011, the SJVAPCD adopted Rule 4566 pertaining to composting facilities that compost and/or stockpile organic material. This rule governs stockpiling of organic waste, imposes operational requirements on composting operations, requires recordkeeping of organic material flow, and includes other administrative and operational requirements.

Kern County Integrated Waste Management Plan

The Kern County Public Works Department (KCPWD) is required by the State to plan and implement waste management activities and programs in the unincorporated area of the County to assure compliance with AB 939 and subsequent State mandates. The Kern County Integrated Waste Management Plan (IWMP) includes a Source Reduction and Recycling Element, Household Hazardous Waste Element, and Non-disposal Facility Element. The Plan was approved February 1998 by the California Integrated Waste Management Board (now California Department of Resources Recycling and Recovery or CalRecycle). The Kern County IWMP is the long-range planning document for landfill facilities (Kern County 2015).

Kern County Construction Diversion Requirements per the California Green Building Code

As part of compliance with the CALGreen Requirements that took effect beginning January 2011, Kern County implemented the following construction waste diversion requirements:

- Submittal of a Construction Waste Management Plan prior to project construction for approval by the Kern County Building Department;
- Recycling and/or reuse of a minimum 50% of construction & demolition waste; and
- Recycling or reuse of 100% 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% recycling, composting, or source reduction of solid waste by 2020 (Kern County Public Works Department 2021):

- Recycling programs at landfills to recycle or divert a wide variety of products, such as wood waste, cathode ray tubes, tires, inert materials, appliances, etc.;
- Drop-off recycling centers for household recyclables. The County- and the City-operated drop-off recycling centers, which are located in the unincorporated metropolitan area and the city, may be used by both County and city residents;
- Financial assistance for operation of the City of Bakersfield Green Waste Facility;
- The Kern County Special Waste Facility for the disposal of household hazardous waste. Services are provided to all Kern County residents;
- Semi-annual “bulky waste” collection events, which are held in the Bakersfield area and available to both County and city residents (co-sponsor); and

- An innovative elementary school program called the “EcoHero Show.”

Kern County General Plan

The project site is located within the *Kern County General Plan*. The goals, policies, and implementation measures in the *Kern County General Plan* for utilities applicable to the proposed project are provided below.

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

1.4 Public Facilities and Services

Goals

Goal 1: Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.

Goal 5: Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.

Goal 9: Serve the needs of industry and Kern County residents in a way that does not degrade the water supply and the environment and protect public health and safety by avoiding surface and subsurface nuisances resulting from the disposal of hazardous wastes, irrespective of the geographic origin of the waste.

Policies

Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.

Policy 8: Environmentally safe locations for the disposal of solid waste will be assured by locating sites in accordance with the criteria set forth in Appendix E of the General Plan.

Policy 9: Applicants for all solid waste disposal facilities (Map Code 3.4) and other waste facilities (Map Code 3.7) shall submit closure plans and financial assurance estimates to guarantee closure in conjunction with approval of the required conditional use permit. The requirement for financial assurances may also be satisfied if a State or federal agency will have lead permit responsibility for approval or operational oversight of the facility and which also will require

the posting of financial assurances to guarantee site closure. In conjunction with the financial assurances filed with the County, applicants shall enter into a contract with the County to guarantee site closure.

Policy 10: A designated site for solid waste disposal facilities (Map Code 3.4) shall be protected from encroachment of incompatible land uses and intensive urban development. General Plan map code designations which may be compatible for properties adjacent to or within 1,320 feet of solid waste disposal facilities include the following: Resource designations (8.x), 1.2, 3.3, 5.8, 7.1, 7.2, and 7.3. Other map code designations may be compatible subject to project-specific CEQA evaluation. Intensive residential uses, community care facilities, schools, hospitals, recreational vehicle parks, and other uses involving sensitive populations, concentrations of people, and other activities will usually be incompatible adjacent to or near solid waste disposal facilities. Health risk assessment analysis prepared by the land use project applicants may be warranted when considering proposals for General Plan amendments, zone changes, conditional use permits, and sensitive uses within 1,320 feet of a designated solid waste facility site.

Policy 11: A solid waste disposal facility (Map Code 3.4) and other waste facilities (Map Code 3.7) shall pay its pro-rata share of upgrading of pertinent County roads.

Policy 12: For solid waste disposal facilities, all necessary permits shall be obtained from the Kern County Environmental Health Services Department, Kern County Waste Management Department, State of California Integrated Waste Management Board, State of California Regional Water Quality Control Board, the appropriate Air Pollution Control District, and all other responsible agencies prior to the commencement of operations.

Policy 13: The County shall ensure landfill capacity for the residents and industry of Kern County.

Policy 14: All solid waste disposal facilities shall designate a buffer around the permitted disposal area as defined by the Map Code 3.4 land use designation.

Policy 15: Prior approval of any discretionary permit, the County shall make the finding, based on information provided by CEQA documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

Implementation Measures

Implementation Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.

Implementation Measure D: Involve utility providers in the land use and zoning review process.

1.10.1 General Provisions, Public Services and Facilities

Policies

Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.

Policy 12: All methods of sewage disposal and water supply shall meet the requirements of the Kern County Public Health Services Department and the California Regional Water Quality Control Board. The County's Public Health Services Department shall periodically review and modify, as necessary, its requirements for sewage disposal and water supply, and shall comply with any new standards adopted by the State for implementation of Government Code Division 7 of the Water Code, Chapter 4.5 (Section 13290-13291.70 (Assembly Bill 885) (2000).

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

Implementation Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.

Implementation Measure D: Involve utility providers in the land use and zoning review process.

Implementation Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply, and Preservation of Environmental Health Rules and Regulations administered by the County's Public Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site-specific documentation that characterize the quality of upper groundwater in the alternative septic systems would adversely impact groundwater quality. If the evaluation indicated that the uppermost groundwater at the proposed site

already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic system is installed, the applicant would be required to supply sewage collection, treatment, and disposal facilities.

Chapter 5. Energy Element

5.4 Electricity Resources and Generation

5.4.4 Transformation Development (formerly called Waste-to-Energy Development)

Goals

Goal 1: To provide for the careful siting of proven transformation technologies which provide for minimum risks to the environment and to public health and safety.

Policies

Policy 2: The County should encourage the safe and orderly development of biomass conversion facilities as an alternative to burning agricultural wastes.

Policy 3: When evaluating proposals for transformation plants, the County should take under consideration whether the projects will produce air pollutant emissions in quantities that could reduce the ability to site other energy projects.

Policy 4: New transformation facilities shall be in conformance with the Kern County General Plan and the Kern County and Incorporated Cities Integrated Waste Management Plan

Implementation Measures

Implementation Measure A: The County shall continue to maintain provisions in the Kern County Zoning Ordinance to provide for the safe and orderly development of transformation projects.

4.17.4 Impacts and Mitigation Measures

This section evaluates the impacts related to utilities and service systems associated with the project 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, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

Potential impacts to utilities and service systems associated with construction and operation of the proposed project were evaluated qualitatively and quantitatively using a variety of resources, including multiple online sources and published documents. The impact analysis pertaining to water supply is based on the WSA prepared for the project (Bowman 2020) provided in Appendix J. In addition, current data obtained from the County and State of California about the capacity of landfills was used to identify potential solid waste impacts. The evaluation of impacts is based on professional judgement, analysis of Kern County's land use policies, and significance criteria adopted by Kern County in the *Kern County CEQA Implementation Document*, which was determined by Kern County to be appropriate criteria for this EIR. The discussion below describes project-specific impacts and provides measures that would be incorporated to mitigate and reduce potential impacts to the extent feasible.

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 State CEQA *Guidelines*, to determine if a project could potentially have a significant adverse effect related to utilities and service systems.

The Kern County Environmental Checklist states that a project would normally be considered to have a significant impact related to utilities and service systems if it would:

- a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- b. Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.
- c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate 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.
- e. Fail to comply with Federal, State, and local management and reduction statutes and regulations related to solid waste.

Project Impacts and Mitigation Measures

Impact 4.17-1: The project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

Water

eASP Composting Facility

Water for the proposed composting operation would primarily be used for maintaining the proper moisture content of the biofilter layer of the compost piles and the top layer of the curing piles to control VOC emissions from the composting process. The optimum amount of water to place on the piles is expected to be 130 gallons per ton or 2.2 cubic yards of compost material. It is estimated that each pile would require 0.07 acre-feet (AF) of water per month to maintain optimum moisture levels. A sprinkler system would be installed to apply this non-potable water to compost piles to maintain optimum moisture levels.

Water would also be used for control of fugitive road dust emissions from trucks hauling raw material to the composting facility, from trucks hauling finished compost from the facility, and from equipment movement around the piles (e.g., mixing wastes, building the compost piles, moving stable compost to the curing piles, and loading trucks with finished compost). An application rate of 650 GPD per acre is expected for dust control. Approximately 30% of the overall developed site and access road would require dust control on a given day. Site A would not have traffic or other dust-producing activities on the entire site at any given time. Windrow composting and dust-producing activities would occur on a maximum of 2 acres on any given day. The remainder of the site would be dormant or covered with passive compost windrows, which would have their own watering systems. The amount of water needed for dust control is calculated in **Table 4.17-1, Dust Control Water Demand**.

Table 4.17-1 Dust Control Water Demand

Phase	Total Area (Acres)	Watered Areas	GPD per Acre	Dust Control GPD
1	47	30%	650	9,160
2	21	30%	650	4,090
3	68	30%	650	13,250
Total				26,500

Source: Bowman 2020

The composting operations would occur in three different phases of varying sizes. Market demand would determine when each subsequent phase is initiated; however, it is anticipated that all three phases would be active 10 years after the composting facility is operational. The site is estimated to need approximately 20.4 AF of water per month at full buildout and approximately 800 gallons per day.

The composting facility is expected to utilize approximately 130 gallons of water per ton of composting feedstock. The average composting pile would be 318 cubic yards, which equates to 143.1 tons per pile. To calculate the water usage per pile, the gallons of water per ton (130 gallons) was multiplied by the volume of the average composting pile (318 cubic yards), which yielded 18,603 gallons of water per pile. A 20% contingency was added to the water usage volume and the number of operating days per month was considered, ultimately yielding a water consumption value of 800 gallons of water per day per pile.

A detailed breakdown of the anticipated water demand by phase is presented in **Table 4.17-2, Composting Facility Water Demand**. It represents an estimated annual water usage of up to 244 AFY for the composting operation at full buildout of the composting facility.

Table 4.17-2 Composting Facility Water Demand

	Phase			Total
	1	2	3	
Number of active piles	76	34	130	240
Dust Control (GPD)	9,160	4,090	13,250	26,500
eASP Composting Facility (GPD)	60,800	27,200	104,000	192,000
Total Water Demand per Day (Gallons)	68,960	31,290	117,250	217,500
Total Water Demand per Month (Gallons)	2,097,550	951,750	3,566,350	6,615,650
Total Water Demand per Month (AF)	6.5	2.9	11.0	20.5
Total Water Demand Annually (AF)	78	35	132	244

Source: Bowman 2020

Water for the proposed composting facility would be provided by the BVWSD via the BMWD, which has entered into a 20-year, 250-AFY agreement with the project proponent. Water would be pumped from the California Aqueduct from a turnout known as BM (Berrenda Mesa) #3. From there, it would be conveyed through a system of pipelines owned by BMWD to a turnout (#1026A) that connects to an existing Holloway-owned and maintained water line. From there, a 4-inch pipeline runs east approximately 2 miles to the location where existing Holloway-owned water storage tanks holding up to 76,000 gallons are located (Bowman 2020). The 4-inch pipeline is gravity-fed but maintains a consistent high pressure above 50 pounds per square inch (PSI), which is capable of producing approximately 480 GPM. This rate would allow the storage tanks to be filled in under 3 hours or eight times per day, providing a maximum capacity of approximately 608,000 GPD. Watering of the compost piles would occur sporadically throughout the day to ensure the tanks have adequate time to refill. The existing infrastructure is capable of producing and storing the water necessary for the proposed facilities; therefore, no new or expanded water supply infrastructure, other than the proposed sprinkler system, would be required to provide water to the proposed composting facility and impacts would be less than significant (Bowman 2020).

Bioenergy Facility

The proposed bioenergy facility would utilize air-blown downdraft gasifier technology and an Organic Rankine Cycle (ORC) to generate power, neither of which would require the water

supply and treatment systems required for more conventional steam cycle power plants. It would employ dry cooling for the power cycle and process cooling systems, which would eliminate the need for water makeup to a conventional evaporative cooling water system. These design features would significantly reduce the water demand for the proposed bioenergy facility. In addition, the bioenergy facility design would allow for recovery and reuse of suitable quality (clean) wastewater, after testing, filtration, and minimal treatment to the raw water tank, to further reduce the water demand for the proposed bioenergy facility. Worst-case water demand for the bioenergy facility, not accounting for any wastewater reuse, is provided in **Table 4.17-3, Bioenergy Facility Water Demand**. Additional water would be stored on-site for emergency fire suppression, as required by the Kern County Fire Department and State and County Building Codes.

Table 4.17-3 Bioenergy Facility Water Demand

Usage	GPD
Safety Shower Testing (Average) ¹	25
Firewater Pump Testing (Average) ²	250
Hose Stations ³	375
Biochar Conditioning ⁴	1,835
Other ⁵	130
Total	2,615
Total (AFY)	2.93

¹ Four safety showers (40 GPM) tested once per week, for 1 minute each.

² 2,000-GPM firewater pump, tested once per year for 45 minutes.

³ 25-GPM hose usage for 15 mins per day.

⁴ 2,550 pounds per hour of dry biochar per day moisturized to 20 wt% moisture.

⁵ Includes potable water usage (25 GPD/person x 5 persons), 2 GPD water tank evaporative losses and demineralizer water makeup (3 GPD).

Source: Bowman 2020

If 65% (average) of the collected wastewater can be reused, as expected (after filtration and minimal treatment), the total water demand would be reduced by approximately 750 GPD (0.84 AFY).

The bioenergy facility would utilize water supplied through the same agreement with BVWSD to provide 250 AFY of water. With the composting facility potentially needing up to 244 AFY, there is still an additional 6 AFY available to meet the estimated demand of 3 AFY for the bioenergy facility. At full buildout, the composting and bioenergy facilities are expected to require approximately 222,000 GPD. The water would be delivered to the site in the same manner as described above; therefore, the bioenergy facility would not require new or expanded water facilities and impacts would be less than significant.

Landfill Facility

Existing landfill operations are served by surface water imports from the BMWD through a 50-AFY agreement with the Blackwell Land Company, Inc. The current water demand of the landfill, operating at 2,000 tons per day (TPD), is approximately 13.79 AFY. The expansion of accepted waste streams to the landfill is not anticipated to require an increase in water demand

(Bowman 2020). Water for landfill operations is used almost exclusively for dust control on the haul roads and is typically not placed on the accepted fill material, regardless of waste type. Additionally, biosolids truck and disposal-related heavy equipment rinse wastewater (rinsate) is contained and recycled to reduce overall water demand. The landfill would continue to accept a maximum of 2,000 TPD of waste material and use the same haul routes; therefore, the additional waste streams would have a negligible effect on water demand needed to operate the landfill and would not require the construction or expansion of new water supply infrastructure. Impacts would be less than significant.

Wastewater

eASP Composting Facility

Construction of the proposed composting facility would require approximately 11 temporary workers. Wastewater generated during construction activities would be contained within portable toilet facilities and be disposed of at an approved disposal site. Permanent wastewater facilities would not be required. Additionally, construction would result in wastewater from washing equipment, compaction, and dust suppression. It is expected that the wastewater from these activities would be allowed to run onto the soil and evaporate and would not require new facilities. Construction of the proposed composting facility would not require new, or the expansion of existing, wastewater facilities, and impacts would be less than significant.

Operation of the composting facility would employ 8 to 12 employees. Wastewater generated during operation activities would be similar to that described above for construction. Operational activities would not require new, or the expansion of existing wastewater facilities, and impacts would be less than significant.

Bioenergy Facility

Construction of the proposed bioenergy facility would require approximately 80 temporary workers. Wastewater generated during construction activities would be similar to that described above for the composting facility, and impacts would be less than significant.

Operation of the bioenergy facility is expected to generate limited quantities of wastewater associated with the 8 to 12 additional full-time employees, as well as wastewater from new impervious surfaces, rinsate, and the safety shower, hose stations, and firewater pump associated with the bioenergy facility. It is intended that this wastewater, along with any rainfall, would be retained on-site. Stormwater runoff from the process unit area of the bioenergy facility, as well as the safety shower, hose stations, and firewater pump runoff from these areas, would be collected in an on-site wastewater sump and stored in mobile water tanks. After testing, the water may be returned to the water tank for reuse, with or without filtration or treatment or disposed of or utilized off-site. For this purpose, a 3.5-AF drainage sump is proposed to capture this water and allow it to naturally infiltrate. Potential environmental impacts of the proposed drainage sump and new restroom facilities are evaluated throughout the individual sections of this EIR. No environmental impacts were identified as a direct result of the drainage sump or wastewater facilities.

A new septic system and leach field would be installed to serve the bioenergy facility. The on-site wastewater treatment and disposal facilities would be required to comply with the minimum standards for design through the California Building Code (CBC) (California Code of Regulations [CCR] Title 24), which includes standards for septic tanks and seepage pits on Chapter 8.60, as well as the Kern County New Development Standards, to ensure that soils are capable of adequately supporting the use of on-site wastewater treatment and disposal facilities. Mitigation Measure MM 4.17-1 (BEF) would require the project proponent to have the new septic and wastewater facilities approved by Kern County Public Health Services Department (KCPHSD), Environmental Health Division. Therefore, impacts associated with the development and operation of on-site wastewater facilities would be less than significant with implementation of mitigation.

Landfill Facility

The addition of new waste streams would not generate an increase in operational wastewater generation as the daily disposal rate and truck rate would remain the same, and no new employees for the landfill facility would be needed to accommodate the modification to accepted waste streams. As described in Section 4.17.2, *Environmental Setting*, the existing landfill contains a 10,000-gallon rinsate wastewater tank to contain recirculated wastewater and a leachate collection sump and a leachate collection and removal system drainage layer. The expansion of landfill waste streams would not require the expansion of these wastewater facilities or the construction of new wastewater facilities; therefore, impacts would be less than significant.

Stormwater

eASP Composting Facility

Construction of the proposed composting facility would modify 136.2 acres in the general area of Pit E (including the areas adjacent to Pit E that are currently used for overburden storage) and would require final closure of the existing landfill pits within Site A, site grading, excavation for retention ponds, and the installation of solar-powered blowers for aerating compost piles. Proposed ground-disturbing activities required for construction of the composting facility would modify the existing drainage pattern of the project area. Stormwater would be collected and controlled on-site through development of the proposed retention pond. Mitigation Measure MM 4.17-2 (COM) requires the project proponent to modify the existing Waste Discharge Requirements (WDRs) for the landfill or obtain a new WDR, as required by Central Valley RWQCB. The project must also comply with the requirements of the State's General Permit under the NPDES program. The General Permit's requirements include preparation of a SWPPP. Through prescribing BMPs, the objective of the SWPPP is to reduce or eliminate sediment or other pollutants from entering stormwater runoff. The SWPPP shall identify the precise implementation of BMPs. Implementation of the BMPs outlined in the SWPPP would avoid and/or minimize potential impacts such as erosion, sedimentation, and runoff that could result from construction of the project within the project site. Mitigation Measure MM 4.6-7 (COM, BEF) requires the project proponent to prepare and implement a SWPPP. With implementation of Mitigation Measures MM 4.6-7 (COM, BEF) (see Section

4.6, *Geology and Soils*, for mitigation measure) and MM 4.17-2 (COM), potential impacts related to the construction of new, or the expansion of existing, stormwater drainage facilities would be less than significant with regard to the proposed composting facility.

Bioenergy Facility

Construction of the proposed bioenergy facility would create approximately 6 acres of new impervious surfaces and would include the construction of a new stormwater drainage system to comply with all local requirements, including the Kern County New Development Standards for drainage. Stormwater runoff from the process unit area of the bioenergy facility, as well as the safety shower, hose stations, and firewater pump runoff from these areas, would be collected in an on-site wastewater sump and stored in mobile water tanks. After testing, the water may be returned to the water tank for reuse, with or without filtration or treatment or disposed of or utilized off-site. Potential environmental impacts of the proposed drainage facilities are evaluated throughout the individual sections of this EIR. No environmental impacts were identified as a direct result of the drainage facilities. Mitigation Measure MM 4.6-7 (COM, BEF) requires the project proponent to prepare and implement a SWPPP. With implementation of Mitigation Measure MM 4.6-7 (COM, BEF) (see Section 4.6, *Geology and Soils*, for mitigation measure), potential impacts related to the construction of new, or the expansion of existing, stormwater drainage facilities would be less than significant with regard to the proposed bioenergy facility.

Landfill Facility

As described in Section 4.17.2, *Environmental Setting*, the existing landfill contains a 10,000-gallon rinsate wastewater tank to contain recirculated wastewater and a leachate collection sump and a leachate collection and removal system drainage layer. The proposed modification to accepted waste streams at the landfill would not generate an increase in stormwater runoff as no physical modifications to the existing landfill operation would occur and the daily disposal rate and truck rate would remain the same. Therefore, the proposed modification would not require new or expanded stormwater facilities and no impact would occur.

Electric Power, Natural Gas, and Telecommunication Facilities

eASP Composting Facility

The composting process would take place on 240 individual composting piles within the proposed composting facility. Each composting pile would be equipped with a pair of 1.5-horsepower blower motors powered by a small array of solar cells with a backup battery supply to aerate the compost piles. The blowers would be connected to a manifold that would lead to three 4-inch perforated pipes that would run down the center of the compost pile. These pipes would be covered with approximately 1 foot of woody biomass material. The goal is to create an aeration zone beneath the active compost pile that allows for uniform airflow up through the active compost material.

The proposed composting facility would primarily use solar-generated power to operate and would have a PG&E electrical connection to use as a backup supply. Existing PG&E lines are

located along Holloway Road and any new connections would be provided via overhead line connection. It is not anticipated that PG&E would need to provide new distribution or transmission facilities to serve the project. Potential environmental impacts of proposed electrical connections are evaluated throughout the individual sections of this EIR. No environmental impacts were identified as a direct result of new overhead lines or connections. New natural gas and telecommunication services are not proposed for the composting operation. Therefore, impacts related to the provision of these services would be less than significant.

Bioenergy Facility

The proposed bioenergy facility includes the construction and operation of a renewable power plant (the bioenergy facility), which would primarily utilize woody agricultural wastes as a feedstock to produce 3 MW (net) of electrical power for export to the grid via PG&E under the Bioenergy Market Adjusting Tariff (BioMAT) Program (Category 2 – Agricultural Feedstocks). Power would be generated at 4,160 volts at an ORC turbogenerator and stepped up to 21 kilovolts (kV), at the bioenergy facility, for connection to the PG&E Twisselman 2105 substation via an existing 21 kV utility distribution circuit adjacent to the bioenergy facility. Interconnection would be completed in accordance with CPUC's Generating Facility Interconnections, Electric Rule 21. The bioenergy facility would include a generator building, substation building, an outside 4.16/21 kV transformer, and a switchyard. An overhead powerline would run from the bioenergy facility switchyard to an existing overhead power pole, or to a new pole, east of the facility, where a pole-mounted breaker would be installed.

A natural gas line and metering yard is proposed to supply natural gas to the bioenergy facility; however, it is not anticipated that SoCalGas would need to provide additional or expanded services to provide natural gas for the project.

It is expected that telecommunication facilities would be provided to the maintenance and utility building and control building. New overhead lines would be run from the existing lines along Holloway Road.

Potential environmental impacts of proposed electrical, gas, and telecommunication connections are evaluated throughout the individual sections of this EIR. No environmental impacts were identified as a direct result of new overhead lines or connections. Therefore, impacts would be less than significant.

Landfill Facility

The existing landfill operation does not require electric power or natural gas; however, telecommunication facilities and electric power are existing at the H.M. Holloway offices, which support the landfill operations. The proposed addition of new waste streams would not generate an increased demand for electric power, natural gas, or telecommunication use as the daily disposal rate and truck rate would remain the same, and no new employees for the landfill would be needed. Therefore, no impact associated with the provision of these facilities would occur.

Mitigation Measures

Implement Mitigation Measure MM 4.6-7 (COM, BEF) (see Section 4.6, *Geology and Soils*, for mitigation measure), in addition to the following measures.

MM 4.17-1 (BEF) Prior to operation of the bioenergy facility, the project proponent shall coordinate with Kern County Public Health Services Department, Environmental Health Division for approval of the new septic and wastewater facilities.

MM 4.17-2 (COM) Prior to construction of the composting facility, the project proponent shall apply for an individual Waste Discharge Requirements for the proposed composting operation or incorporate composting operations into the landfill facility's existing Waste Discharge Requirements (Order R5-2010-0123).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.6-7 (COM, BEF), MM 4.17-1 (BEF), and 4.17-2 (COM), impacts would be less than significant.

Impact 4.17-2: The project would have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

eASP Composting Facility

Water use for construction of the composting facility would primarily be used for dust suppression during excavation, grading, and compaction. A new sanitary water supply would not be needed for the project because a sanitary water system is currently utilized for the existing landfill and mining operations, which would continue to be used for construction of the composting facility.

The overall construction water usage is anticipated to be approximately 9,160 gallons per day (GPD) for Phase 1, 4,090 GPD for Phase 2, and 13,250 GPD for Phase 3, totaling 26,500 GPD. Non-potable water would be supplied through a water purchase agreement with BVWSD and delivered to Site A through the existing piping system. It would then be stored in existing on-site tanks.

As discussed under Impact 4.17-1, the proposed composting facility would require an estimated annual water demand of up to 244 AF at full buildout. Water for the composting operation would primarily be used for maintaining the proper moisture content of the biofilter layer of the compost piles and the top layer of the curing piles to control VOC emissions from the composting process. Water required to support the operational phase of the composting facility would be provided by the BVWSD via the BMWD, which has entered a 20-year, 250-AFY agreement with the project proponent.

BVWSD has recently evaluated its water system supply and entitlements as part of its compliance with the SGMA. The SGMA requires that water agencies prepare a GSP, which analyzes existing water supplies and groundwater levels and implements a plan to ensure that these remain in balance and are sustainable over a long period of time. It should be noted that the project location and water supplier are not located in area that is subject to an Urban Water Management Plan (UWMP). The *Buena Vista GSA Final Groundwater Sustainability Plan: Kern County Groundwater Subbasin* was prepared by GEI Consultants in January 2020.

Chapter 6 “Water Supply Accounting – Water Budget” of the Buena Vista GSA GSP presents data related to BVWSD’s current supplies and outlook for both supply and demand. It is anticipated that BVWSD’s entitlement to Kern River through the year 2070 is expected to average 147,000 AFY. BVWSD’s entitlement to SWP water is expected to be 10,700 AFY by the year 2030 and 9,642 AFY by the year 2070. These projected totals account for reductions in future supply due to climate change.

The GSP has calculated the projected water demand and increased deliveries over this same period to develop a water budget. Despite the overall surplus diminishing, it is projected that the BVWSD would still have a net positive balance of water supply over the next 50 years (Table 4.17-4, *BVWSD 2020, 2030, and 2070 Resources and Demands*).

Table 4.17-4 BVWSD 2020, 2030, and 2070 Resources and Demands

BVGSA Resource vs Demand	Volume (AFY)		
	2020	2030	2070
Water Resource			
Native yield	7,626	7,626	7,626
Precipitation	10,168	8,338	8,541
Subtotal	17,794	17,794	17,794
Kern River	149,000	147,000	147,000
SWP Table A ¹	13,392	10,406	9,964
SWP – Article 21 ²	1,800	3,900	3,900
<i>Subtotal</i>	<i>164,192</i>	<i>161,306</i>	<i>160,864</i>
Available Resource	181,986	177,260	177,031
Water Demand			
Evapotranspiration ³	100,000	150,250	175,000
Castaic Water Sale ⁵	4,509	4,509	
Mail Drain Canal ⁴	-	-	0
Total Demand	104,509	154,759	175,000
Balance	77,227	22,501	2,031

¹ Table A reduced by 22% in 2030 and by 26% in 2070.

² Article 21 increased by 2,100 AFY due to completion of Palms and Corn Camp water banking projects.

³ 2020 estimate based 2019 water demands measured by BVWSD.

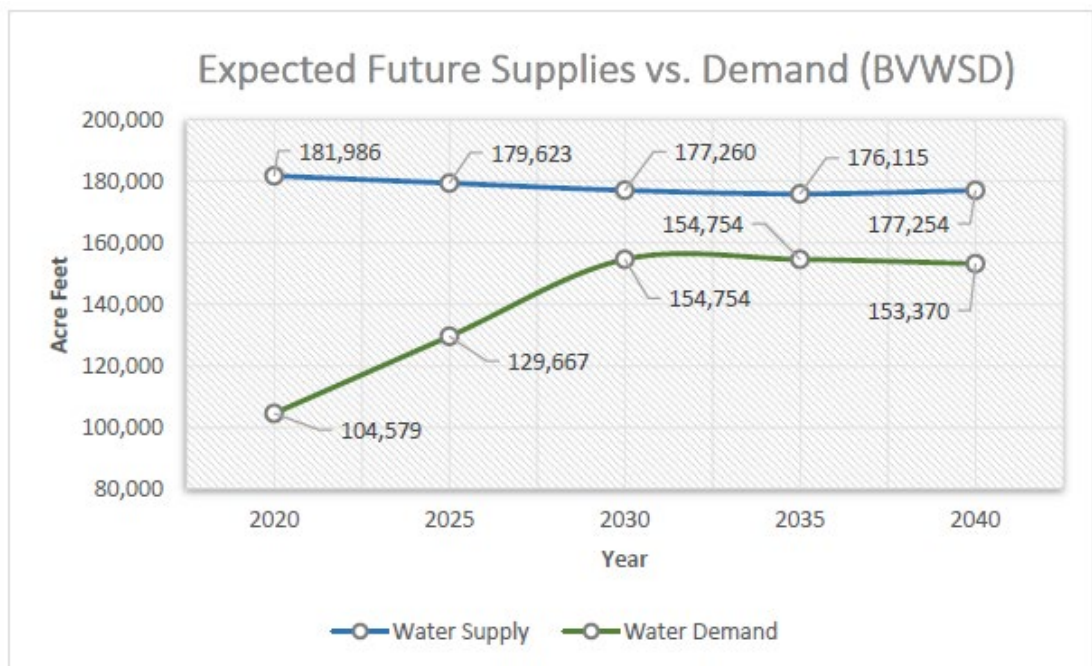
⁴ Based on average Main Drain Canal outflow since June 2013. This value is used because it represents current and expected future outflows.

⁵ Sale expected to occur through the year 2036.

Source: Bowman 2020.

Over the next 20 years, BVWSD is expected to have sufficient water entitlements in order to meet all of its expected demand, including the additional 244 AFY needed for the composting facility as shown on **Figure 4.17-1, BVWSD Expected Future Supplies vs. Demand** (Bowman 2020).

In addition to its current entitlements, BVWSD is currently developing two projects to increase its overall inflows and available supply. The Palms Water Banking project will remove approximately 1,160 acres from agricultural production. The net result will be evapotranspiration decreasing by 3 AF per acre, and the doubling of Article 21 water available from the California Aqueduct from 1,800 AFY to approximately 3,600 AFY. These adaptations are expected to increase the net inflow to the BVWSD GSA by approximately 5,280 AFY. BVWSD is also in the process of developing an 85-acre banking facility within the district, located at the intersection of Corn Camp Road and State Route 58. This banking area is expected to increase banking of Article 21 water by an estimated 300 AFY. Chapter 6 of the GSP compiled the average water surface deliveries by the type of water year (wet, below normal, dry, etc.) for the years between 1993 and 2015, as shown in **Table 4.17-5, BVWSD Average Surface Water Deliveries (AF) by Water Year Type (1993–2015)**.



**Figure 4.17-1
BVWSD Expected Future Supplies vs. Demand**

Table 4.17-5 BVWSD Average Surface Water Deliveries (AF) by Water Year Type (1993–2015)

Source	Wet	Above Normal	Below ¹ Normal	Dry	Critically Dry
California Aqueduct Turnouts	84,717	77,204	74,728	61,403	45,376
East Side Intake Canal	97,427	63,848	28,363	36,669	20,169
Total Surface Deliveries	181,843	141,052	103,091	98,072	65,546

¹ Outlet Canal seepage occurs outside of BVGSA boundaries. Shown in this table for reference, but not included in calculations.
Source: Bowman 2020

As shown in Table 4.17-5, when surface water deliveries are reduced during dry years, there is typically an increase in the amount of groundwater pumped within the district. However, due to its abundant surface water entitlements, BVWSD was still able to sell surplus water to surrounding water districts, even during the critically dry years. This was true in both 2014 and 2015, which occurred during a multiple-year period of the driest years on record. BVWSD lends water rights to other districts that are typically required to be transferred back to BVWSD during dry years.

The agreement between the project proponent and BVWSD provides access to BVWSD's surface water supply for the project over next 20 years. If, for some reason, there is a reduction in the amount of water available due to multiple drought years, the composting operation would be capable of scaling down. The agreement with BVWSD requires that the project proponent estimate the amount of water needed at the beginning of each year. If drought conditions limit the amount of water available from BVWSD, the maximum number of compost piles at the facility (also accounting for dust control) could be reduced to match the available water supply. New piles would not be started unless there is certainty of a water supply needed for the life cycle of the pile. In the unlikely event that compost goes to waste due to lack of water, it could be used as alternative daily cover at the landfill and still be considered beneficial reuse. Therefore, impacts related to inadequate water supply for the proposed composting facility would be less than significant.

Bioenergy Facility

Water use for construction of the bioenergy facility would primarily be used for dust suppression during site preparation. The overall construction water usage is anticipated to be approximately 3,900 GPD for the bioenergy facility.

As discussed under Impact 4.17-1, the bioenergy facility would utilize water supplied through the same agreement with BVWSD to provide 250 AFY of water. With the composting facility potentially needing up to 244 AFY, there would still be an additional 6 AFY available to meet the estimated demand of 3 AFY for the bioenergy facility. Based on the above analysis, the BVWSD is considered to have sufficient water supplies to provide the agreed upon amount of 250 AFY during all water year conditions; therefore, impacts related to inadequate water supply for the proposed bioenergy facility would be less than significant.

Landfill Facility

Existing landfill operations are served by surface water imports from the BMWD through a 50-AFY agreement with the Blackwell Land Company, Inc. The current water demand of the landfill, operating at 2,000 TPD, is approximately 13.79 AFY. As discussed under Impact 4.17-1, the proposed CUP modification to allow additional waste streams to be accepted at the landfill is not anticipated to require an increase in water demand (Bowman 2020). Water for landfill operations is used almost exclusively for dust control on the haul roads and is typically not placed on the accepted fill material, regardless of waste type. The landfill would continue to accept a maximum of 2,000 TPD of waste material and use the same haul routes; therefore, the additional waste streams would have a negligible effect on water demand and ongoing landfill activities would have sufficient water supplies to service to the project. No impact related to water supply would occur as a result of expanded waste streams.

Conclusion

Based on the analysis provided in the WSA prepared for the proposed project (Bowman 2020) provided in Appendix J, it can be concluded that adequate water supplies would be available for at least the next 20 years to satisfy the demands of the proposed project. The agreement between the project proponent and BVWSD provides a virtually-guaranteed water supply necessary for the composting and bioenergy facilities regardless of year-to-year fluctuations in the amount of surface water available. BVWSD's current entitlements and planned projects are expected to be able to handle future demand for the entire district over the next 50 years.

The GSP concludes that, due the BVWSD's history of conjunctive management, the resources and the mechanisms are in place to keep the groundwater basin in balance internally while factoring in climate change, even while also contributing to sustainability throughout the Kern County subbasin. Therefore, adequate water supplies would be available to meet the demands of the proposed project and impacts related to water supply would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.17-3: The project would result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The project is not expected to generate a significant amount of wastewater. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed for operations.

Wastewater generated by the project would be disposed of by either a contractor at an approved offsite location or by an on-site septic system. Therefore, wastewater generated would be negligible and would not exceed wastewater treatment capacity of any treatment providers. Impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.17-4: The project would not 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.

eASP Composting Facility

The project proponent is requesting to accept a maximum of 640,000 tons per year (TPY) of composting feedstock comprised of the following: green waste, herbivore manure, food material, wood waste, digestate, and Class A and B biosolids. This would allow for operational flexibility to combine various feedstock types and quantities to create the highest quality product, without the constraint of sub-limits for specific types of compostable feedstock materials. In addition, specific tonnage limits could impede on goals to divert organic materials from the landfill. Incoming materials that are mandated for diversion by CalRecycle regulations would be diverted, as feasible, to either the composting facility or bioenergy facility.

Construction of the composting facility would include the generation of limited quantities of solid waste; however, any residual waste generated by construction of the proposed composting facility would be disposed of on-site at the Lost Hills Environmental Industrial Landfill or other approved recycling and disposal facility. Solid waste not approved for disposal at the on-site landfill would be disposed of at an approved facility. The nearest municipal landfill is the Shafter-Wasco Recycling and Sanitary Landfill, located 25.6 miles southeast of the project sites. Additionally, a portion of materials accepted for composting may be non-compostable. These materials, called residuals, may consist of plastic sheeting and other packaging materials, as well as oversized woody materials that do not breakdown during the composting process. Residuals may be diverted to the bioenergy facility for gasification or to the landfill for disposal.

The estimated date the landfill will reach permitted capacity is 2030 and the disposal capacity at the landfill would not be impacted by construction and operation of the proposed composting facility. The on-site landfill is expected to be capable of accepting construction and operational waste generated by the proposed project. Construction and operation of the composting facility would not 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;

however, Mitigation Measure MM 4.17-3 (COM, BEF) has been identified to require that the project proponent designate an on-site recycling coordinator to facilitate recycling efforts to further reduce solid waste generated by the facility. Further, Mitigation Measures MM 4.17-4 (COM) and MM 4.17-5 (COM) have been identified to require adherence to the applicable payment provisions and reporting procedures to ensure that project demand does not exceed the existing capacity of solid waste facilities. With implementation of Mitigation Measures MM 4.17-3 (COM, BEF), and MM 4.17-4 (COM), impacts would be less than significant.

Bioenergy Facility

Construction of the bioenergy facility would include the generation of limited quantities of solid waste, however, any residual waste generated by construction of the proposed bioenergy facility would be disposed of on-site at the Lost Hills Environmental Landfill. Any residual waste generated by construction of the proposed bioenergy facility would be disposed of on-site at the Lost Hills Environmental Landfill or other approved recycling and disposal facility. During operation, the bioenergy facility would produce approximately 20 TPD of biochar, 2 TPD of feedstock rejects, and 1.5 TPD of flue gas desulfurization (FGD) filter cake. Biochar would be tested and characterized in accordance with USEPA requirements and be utilized as a soil amendment within a 300-mile radius of the facility. Filter cake would also undergo testing and characterization, but it is anticipated that it could be disposed of at the Lost Hills Environmental Landfill safely as non-hazardous waste. Feedstock reject material primarily consists of rocks, dirt, and miscellaneous tramp materials included in the incoming feedstock materials and would be disposed of at the landfill safely as non-hazardous waste. Construction and operation of the bioenergy facility would not 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; however, Mitigation Measure MM 4.17-3 (COM, BEF) would ensure construction materials are recycled to further reduce solid waste generated by the project. With implementation of Mitigation Measure MM 4.17-3 (COM, BEF), impacts would be less than significant.

Landfill Facility

The project proponent is not requesting an increase in daily tonnage limits of waste streams accepted at the landfill; however, it should be noted the maximum daily tonnage coming to the facility would increase from 2,000 TPD to 3,753 TPD to accommodate both landfill disposal and proposed composting operations. The project proponent is requesting to modify the CUP to allow an increase in the allowable waste streams for acceptance at the landfill, as shown in **Table 4.17-6, Proposed Landfill Waste Streams to be Permitted Under the Proposed Project.**

Table 4.17-6 Proposed Landfill Waste Streams to be Permitted Under the Proposed Project

Currently Permitted Materials for Disposal	Additional Materials Proposed for Disposal	Additional Materials Proposed for Alternative Daily Cover	Additional Materials Proposed for Beneficial Use On-site
<ul style="list-style-type: none"> • Class A and B biosolids • Treated auto shredder waste • Cogeneration ash (fly ash) • Spent sand blast media • Lime filter cake 	<ul style="list-style-type: none"> • Drill cuttings • Slag • Granulated silica • Compost-derived waste • Non-compostable winery pulp/waste • Destructed cannabis/marijuana (including consumables) • Wastewater grit • Poultry waste (non-manure) • Digestates • Industrial sand-based waste • Shredded polyvinyl chloride (PVC) pipe • Dead animals • Non-friable asbestos • Wastewater sloughing 	<ul style="list-style-type: none"> • Fly ash • Auto shredder waste • Pistachio shells/hulls • Almond shells/hulls • Construction and demolition • Compost • Green material • Contaminated sediment • Biosolids • Dirt • Clay • Silt 	<ul style="list-style-type: none"> • Clean asphalt • Concrete • Combination rock • Gravel • Brick • Asphalt grindings

Alternative Daily Cover

As noted above in Table 4.17-6, the landfill facility would accept materials proposed for alternative daily cover (ADC). ADC refers to CalRecycle-approved materials other than soil used as a temporary overlay on an exposed landfill face. Generally, these materials must be processed so they do not allow gaps in the face surface, which would provide breeding grounds for insects and vermin. Additionally, as noted above in Table 4.17-6, the landfill facility would accept materials proposed for beneficial uses. Solid waste at a landfill can be used for beneficial reuse which include, but is not limited to, the following: ADC, alternative intermediate cover, final cover foundation layer, liner operations layer, leachate and landfill gas collection system, construction fill, road base, wet weather operations pads (CalRecycle 2020).

The materials identified in Table 4.17-6 would be included in an annual report submitted by Kern County to CalRecycle, per PRC Section 41821 et eq. The annual report would include a discussion of that year’s progress toward implementing waste diversion programs and calculated annual per capita disposal rate.

In addition to the materials listed in **Table 4.17-6, Proposed Landfill Waste Streams to be Permitted Under the Proposed Project**, waste types that may be considered for disposal in the future are listed in **Table 4.17-7, Waste Materials for Future Consideration**. Currently, the project proponent is not requesting to include the acceptance of these materials for disposal in

the proposed Modification #2 to CUP #9, Map 28. However, dependent on future market demands and the regulatory environment, the project proponent may request an additional modification to CUP #9, Map 28 to include a portion, or all, of these materials for disposal.

Table 4.17-7 Waste Materials for Future Consideration

• Paper and cardboard	• Silt clean asphalt	• Food waste	• Green waste
• Drywall	• Concrete	• Dimensional lumber	• Combination wood
• Flooring	• Combination rock	• Pistachio hulls	• Almond hulls
• Roofing materials	• Concrete with rebar	• Construction and demolition	• Grass
• Tile and windows	• Gravel	• Wood and	• Branches and leaves
• Clean dirt	• Brick	• Wood waste	• Other plant matter
• Clay	• Asphalt grindings		• Excess compost

By nature, the expansion of waste streams for disposal at the landfill is not anticipated to generate solid waste in excess of State or Local standards or in excess of the capacity of local infrastructure. Incoming materials that are mandated for diversion by AB 939 and other County diversion requirements would be diverted, as feasible, to either the proposed composting facility or bioenergy facility. However, in consultation with KCPWD, it was determined that approval of the full list of proposed material types for disposal may create a fiscal impact for KCPWD due to the need to increase solid waste diversion programs within the County in order to maintain compliance with AB 939. The materials proposed for disposal in Table 4.17-6 above, are materials that are routinely diverted within the County’s waste system. Disposal of these divertible materials at the project site, including importation of materials from other jurisdictions, may create a financial burden for Kern County residents and businesses due to the need to offset the disposal of these divertible materials with County-operated recycling and diversion quantities to remain in compliance with AB 939 requirements. Based on this consultation, the list of proposed waste streams was modified to only include waste streams that KCPWD agrees would not impede the attainment of solid waste reduction goals. In addition, the waste streams identified in Table 4.17-7, for future consideration would need further analysis, including preparation of a fiscal impact study to analyze the disposal of otherwise divertible waste on the County’s waste system prior to being approved for acceptance. The waste streams identified for future consideration have been evaluated for environmental impacts throughout other Chapter 4 sections as described in Chapter 3, *Project Description*. Therefore, impacts associated with the proposed modifications to the existing landfill CUP would be less than significant.

Mitigation Measures

MM 4.17-3 (COM, BEF) During construction and operation, debris and waste generated shall be recycled to the extent feasible.

- a. An on-site Recycling Coordinator shall be designated by the project proponent to facilitate recycling as part of the Maintenance, Trash Abatement, and Pest Management Program.

- b. The Recycling Coordinator shall facilitate recycling of all construction waste through coordination with contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes.
- c. The on-site Recycling Coordinator shall also be responsible for ensuring wastes requiring special disposal are handled according to State and Kern County regulations that are in effect at the time of disposal.
- d. Contact information for the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits.

MM 4.17-4 (COM) The owner/operator of the project shall continuously comply with all of the following provisions.

- a. The reporting and payment provisions below shall commence within 10 days of the facility receiving a revised Solid Waste Facility Permit from California Department of Resources Recycling and Recovery permitting the facility, among other things, to receive food waste and manure, and removing the tonnage sublimits. A copy of the issued permit shall be provided to the Kern County Planning and Natural Resources Department and Kern County Public Works Department – Operations Division.
- b. A monthly report showing the tonnage and origin of inbound material shall be provided by the owner/operator of the project to the Kern County Public Works Department – Operations Division on or before the 15th day of the following month.
- c. With 30 days prior written notice, the owner/operator of the project will process up to 10% of the total permitted operating capacity of Acceptable Material, including Food Material, originating within the County that is received at any Kern County-operated facility and transported to Lost Hills Environmental Landfill and Composting by Kern County or its transportation contractors. The initial fee for processing such material shall be negotiated between the Kern County Public Works Department – Operations Division and the owner/operator prior to first delivery, not to exceed \$40.00/ton. The Kern County Public Works Department – Operations Division shall be invoiced monthly for the processing fee of materials sent to Lost Hills Environmental Composting Facility under this mitigation measure, and shall pay such invoices within 30 days thereof. On July 1, 2021, and each July 1 thereafter, the processing fee shall be adjusted by the annual percentage change in Consumer Price Index over the 12-month period ending on the immediately preceding March 31. The

“Consumer Price Index” means Consumer Price Index, All Urban Consumers, Los Angeles-Riverside-Orange County, Series ID: CUURA421SA0, published by the Bureau of Labor Statistics. If that index is discontinued, the index that most closely approximates it shall be substituted. “Acceptable Material” means source separated green waste, wood waste, and/or manure, or any combination thereof, containing less than 1% by weight contamination, and no glass or hazardous material. “Food Material” means a waste material of plant or animal origin that results from the preparation or processing of food for animal or human consumption. Food Material includes, but is not limited to, waste from food facilities as defined in Health and Safety Code Section 113789 (such as restaurants), food processing establishments as defined in Health and Safety Code Section 111955, grocery stores, institutional cafeterias (such as, prisons, schools and hospitals), and residential food scrap collection. “Contamination” means any non-organic material, construction and demolition debris, biodegradable plastics that do not meet American Society for Testing and Materials (ASTM) D6400 or ASTM D6868 requirements, or material not meeting the definition of green waste, wood waste, food waste, or manure. The owner/operator may reject any load or portion thereof that does not constitute Acceptable Material or Food Material. Any ancillary fees, such as rejection fees, shall be payable in accordance with owner/operator’s standard rates. The owner/operator shall notify the Kern County Public Works Department within 24 hours of ancillary fees being applied.

- d. The owner/operator may, in addition, increase the processing fee to pass through any (i) new or increased governmental fees, (ii) increased costs of operating the facility resulting from changes in law, and (iii) increased disposal costs, in each case that become effective or occur after July 1, 2021. The owner/operator shall provide Kern County with 30 days’ prior written notice of any such increase. Fees and costs of a general or facility-wide nature shall be allocated pro rata based on tonnage. Written notice shall include justification demonstrating how new or increased government fees and increased disposal costs create an increase in the processing fee.
- e. If the owner/operator agrees with another customer to process Acceptable Material over a period of 180 days or more for a fee less than the then-applicable processing fee, then, for each month the lower fee is provided to the other customer, the owner/operator shall credit Kern County an amount equal to (a) the monthly tons of Acceptable Material accepted from the other customer (or, if less, from Kern County) multiplied by (b) the difference between the then-applicable processing fee and the fee charged to the other customer. This credit shall be used to offset processing fees charged to Kern County Public

Works Department – Operations Division, or other amounts payable by Kern County to the owner/operator.

- f. Kern County hereby imposes a host fee payable by the owner/operator of \$0.25 for each ton of out-of-County material of any type accepted at the composting facility. On July 1, 2021, and each July 1 thereafter, the host fee shall be adjusted by the annual percentage change in Consumer Price Index over the 12-month period ending on the immediately preceding March 31. The \$0.25 fee shall be directed to the General Fund for the Board-adopted Kern County Lost Hills Economic Opportunity Area (District 4) for use in that area for improvements to the community, including, but not limited to, street lights, park and library improvements, road infrastructure and improvements, community programs, nuisance abatement, and other community benefits. Determination of the use of the money shall be as established by the Kern County Lost Hills Economic Opportunity Area map. This mitigation funding will not be affected or stopped by any declaration of a Fiscal Emergency by the Board of Supervisors that temporarily stops property and sales tax contributions to the fund, as mitigation funding shall continue to be collected and spent.
- g. Kern County hereby imposes a fee, payable by the facility's owner/operator, of \$100 per ton of disposed compost facility residual material to be paid to the Kern County Public Works Department to help fund additional recycling and diversion efforts to mitigate the increase in Kern Unincorporated disposal tonnage. Payment will be due to the Kern County Public Works Department at the end of each quarter based on the residual disposed of from the composting operation as reported to the State of California.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.17-3 (COM, BEF) and MM 4.17-4 (COM), 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.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The existing Lost Hills Environmental Industrial Landfill is currently in compliance with applicable Federal, State, and local management and reduction statutes and regulations related to solid waste. The Lost Hills Environmental Industrial Landfill is a Class III non-hazardous industrial waste landfill, permitted to operate under the provision of CCR Title 27. The site is identified by CalRecycle as SWIS No. 15-AA-0308. Monthly inspections are conducted by the Kern County Public Health Department – Environmental Health Division, acting as the Local

Enforcement Agency, to ensure that the facility operates in accordance with applicable statutes, regulations, and state minimum standards. Additionally, CalRecycle conducts an 18-month inspection of the landfill along with the Kern County Public Health Department. As noted above, solid waste disposal needs for the proposed composting and bioenergy facilities would primarily be served by the landfill itself. Solid waste not approved for disposal at the onsite landfill would be disposed of at an approved facility. The nearest municipal landfill is the Shafter-Wasco Recycling and Sanitary Landfill, located 25.6 miles southeast of the project site.

In September 2016, Governor Brown signed SB 1383, establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants, including methane emissions reductions from organic wastes. SB 1383 approved November 3, 2020 and set to go into effect January 1, 2022, which establishes targets to achieve a 50% reduction in the level of the statewide disposal of organic waste by 2020 and a 75% reduction by 2025. The project is a function of the implementation of SB 1383 and serves as an effort to meet State mandates and meet the regional needs for organics handling and processing. Therefore, the project would comply with Federal, State, and local regulations and impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting Impacts and Mitigation Measures

Cumulative Setting

Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. Section 3.8, *Cumulative Effects Overview*, of this EIR discusses cumulative projects near the project (**Table 3-15, Cumulative Projects List**, in Chapter 3, *Project Description*, lists specific projects considered in the cumulative impact analysis). The geographic scope for cumulative impacts to utilities and service systems includes closely related past, present, and reasonably foreseeable probable future projects. There are no other projects planned within a 6-mile radius of the proposed project, and there are three similar projects underway in Kern County. As provided in **Table 3-15, Cumulative Projects List**, in Chapter 3, *Project Description*, three cumulative projects similar to the proposed project are proposed within the greater Kern County area. The first cumulative project involves the expansion of an existing solid waste facility located approximately 8 miles west of the City of Shafter. The second cumulative project is located south of the unincorporated Town of McKittrick and involves expansion of an existing Class II nonhazardous oilfield waste landfill facility. The third cumulative project is located approximately 7.6 miles west of the unincorporated community of Buttonwillow and involves the expansion of an existing hazardous waste facility. These developments could further contribute to the demand for utilities and service systems in Kern County.

Impact 4.17-6: The project would contribute to cumulative impacts to utilities and service systems.***eASP Composting Facility, Bioenergy Facility, and Landfill Facility***

Significant cumulative impacts could occur if the proposed project, when considered cumulatively with other projects, would overburden utilities and/or service systems in a manner that would render the agencies incapable of providing adequate services or require the development of new facilities.

The proposed project has a contract with the BVWSD committing that a sufficient water supply would be available to serve the proposed project during all water year conditions. BVWSD primarily supplies potable water from the Kern River and the SWP, although groundwater pumping from the Kern County subbasin is increased during dry years. The Kern County subbasin is an important, high-priority source of water supply for the region that is experiencing groundwater level declines. Additional groundwater can be pumped from storage to supply the proposed project, but it would exacerbate the regional overdraft. Compliance with the SGMA means that overdraft must be addressed, and that sustainability will be achieved by 2040, either through local management or through State intervention. The project proponent has entered into an agreement with the BVWSD (see Appendix J) that requires the project proponent to report the predicted water demand each year to ensure that the water supply is accurately allocated. The maximum annual water supply to be allocated to the project proponent is 250 AFY, unless BVWSD determines that additional water supply is available for purchase.

Adequate sources of energy, water, and wastewater are available to meet the demands of the proposed project. Implementation of Mitigation Measures MM 4.17-1 (BEF) and MM 4.17-2 (COM) would further reduce potential impacts related to wastewater and waste discharge. Other planned projects identified in **Table 3-15, *Cumulative Projects List***, would also be required to identify sources of energy, water, and wastewater and determine if adequate supply is available to meet the demand.

The proposed project would generate solid waste during construction and operation; however, with implementation of Mitigation Measure MM 4.17-3 (COM, BEF), the project proponent would designate a recycling coordinator to ensure the separation and proper disposal of recyclable materials and solid waste, and, with the implementation of Mitigation Measure MM 4.17-4 (COM), the applicable payment provisions and reporting procedures would ensure that project demand does not exceed the existing capacity of solid waste facilities. Further, due to the location of the proposed project within the existing private Lost Hills Environmental Industrial Landfill and availability for on-site disposal, material is not anticipated to be disposed of at other local public landfills. As such, the proposed project's contribution to this cumulative impact would be less than significant with mitigation. Similar to the project in question, other planned projects are expected to comply with State and local waste-reduction policies. Therefore, the proposed project is not expected to result in a cumulative impact on Kern County landfills.

The proposed project and all reasonably foreseeable projects are required to provide assurance of the adequacy of utility services in order to be approved by a lead agency. Development

impact fees are assessed on a project-by-project basis to mitigate for the increased demand on utilities. Consistency with the goals and policies of the *Kern County General Plan* and compliance with required development impact fees would reduce the cumulative impacts to less than significant. Project-specific impacts are considered to be less than significant with mitigation; therefore, the project is not considered to contribute to a cumulatively considerable impact.

Mitigation Measures

Implement Mitigation Measures MM 4.6-7 (COM, BEF) (see Section 4.6, *Geology and Soils*, for mitigation measure), MM 4.17-1 (BEF), MM 4.17-2 (COM), MM 4.17-3 (COM, BEF), and MM 4.17-4 (COM).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.6-7 (COM, BEF) (see Section 4.6, *Geology and Soils*, for mitigation measure), MM 4.17-1 (BEF), MM 4.17-2 (COM), MM 4.17-3 (COM, BEF), and MM 4.17-4 (COM), cumulative impacts would be less than significant.

4.18.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for wildland wildfire. This section includes the physical and regulatory setting for the project, the methods used in evaluating potential impacts, the criteria used to evaluate the significance of potential impacts, and an analysis of potential impacts from wildfire. The analysis in this section is based on review of the project plans, information from the California Department of Forestry and Fire Protection (CAL FIRE), and CAL FIRE Kern County Fire Hazards Severity Zone (FHSZ) Maps.

4.18.2 Environmental Setting

Site Characteristics and Fire Environment

As described in Chapter 3, *Project Description*, the project is comprised of two sites—Sites A and B. Site A is a former surface mine that was converted into a Class III non-hazardous industrial waste landfill in 1997. Site A is adjacent to the southern boundary of an area subject to gypsum mining operations associated with the H.M. Holloway Gypsum Mine. Site B is within an existing equipment staging and storage yard for the mine, within approximately 0.2 mile of the mine and immediately east of Holloway Road. No residences or other sensitive land uses are located in the project vicinity.

CAL FIRE maps FHSZs based on factors such as fuel, slope, and fire weather to identify the degree of fire hazard throughout California (e.g., moderate, high, or very high). While FHSZs do not predict when or where a wildfire will occur, they do identify areas where wildfire hazards could be more severe and are therefore of greater concern. According to the CAL FIRE Kern County FHSZ Maps for Responsibility Areas, Site A is classified as Local Responsibility Area (LRA) Moderate and Non-Wildland/Non-Urban and Site B is classified as LRA Non-Wildland/Non-Urban as shown on **Figure 4.18-1, Fire Hazard Severity Zones for Local Responsibility Areas**. The project sites are outside of areas identified by CAL FIRE as having very high risk. The nearest Very High Fire Hazard Severity Zone (VHFSZ) is located approximately 17 miles southwest of the project sites.

In addition, the Kern County Fire Department (KCFD) Wildland Fire Management Plan designates a majority of the project sites as being located within Agriculture/Non-Wildland and Moderate fire hazard severity zones by the County (KCFD 2009).

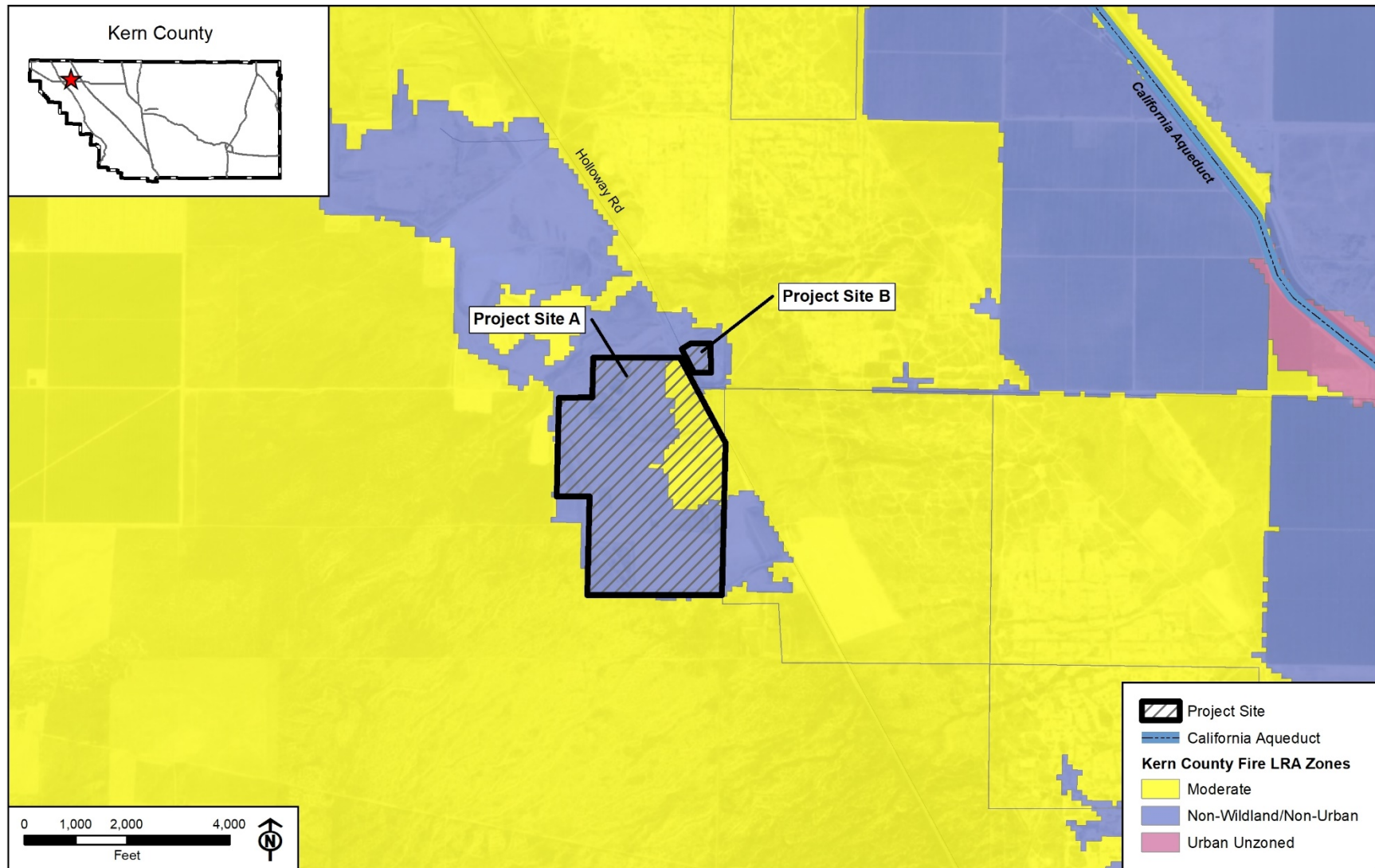


Figure 4.18-1
Fire Hazard Severity Zones for Local Responsibility Areas

Fire History

Fire history information can provide an understanding of fire frequency, fire type, most vulnerable project areas, and significant ignition sources. Fire history represented in this section uses CAL FIRE's California Statewide Fire Map that shows the history of fires back through 2013 (CAL FIRE 2020a) and CAL FIRE's Fire and Resource Assessment Program (FRAP) Fire Perimeters: Wildfires 1950–2018 map (CAL FIRE 2020b).

Based on a review of these maps, one fire in recorded history has burned across the project sites. According to the CAL FIRE's California Statewide Fire Map, in 1995 a fire caused by a natural gas blowout burned across Site A (CAL FIRE 2020b).

Vegetation (Fuels)

With the exception of the northeastern portion of Site A, the sites consist almost entirely of developed/disturbed surfaces. According to the Biological Evaluation prepared for the project (Appendix C.1), the northeast portion of Site A consists of previously disturbed and undeveloped land that predominantly supports annual grassland (*Bromus rubens*–*Schismus [arabicus, barbatus]*) and shrubs consisting of *Atriplex polycarpa* alliance (Allscale Scrub). This type of vegetation can contribute fuel in the event of a wildfire. Site B consists entirely of developed/disturbed surfaces and does not support any vegetation.

4.18.3 Regulatory Setting

Federal

There are no applicable Federal regulations to this issue area.

State

2016 California Fire Code

The 2016 California Fire Code (24 California Code of Regulations [CCR] Part 9) establishes regulations to safeguard against the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The fire code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the fire code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. Chapter 6 (Building Services and Systems) of the fire code focuses on building systems and services as they relate to potential safety hazards and when and how they should be installed. Building services and systems 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 fire code outlines general fire safety precautions to maintain required levels of fire protection, limit fire spread, establish the appropriate operation of equipment and promote prompt response to fire emergencies. The

fire code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire service features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface (WUI) areas.

2016 California Building Code, Chapter 7A

Chapter 7 of the 2016 California Building Code details the materials, systems, and/or assemblies used in the exterior design and construction of new buildings located within a WUI Fire Area. A WUI Fire Area is defined in Section 702A as a geographical area identified by the state as a “Fire Hazard Severity Zone” in accordance with the Public Resources Code (PRC) Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. The building code details the materials, systems, and assemblies used for structural fire resistance and fire-resistance-rated construction separation of adjacent spaces to safeguard against the spread of fire and smoke within a building and the spread of fire to or from buildings.

Public Resources Code 4291–4299

California PRC Section 4291–4299 et seq. requires that brush, flammable vegetation, or combustible growth within 100 feet of buildings be maintained. Vegetation that is more than 30 feet from the building, less than 18 inches high, and important for soil stability may be maintained, as may single specimens of trees or other vegetation that is maintained so as to manage fuels and not form a means of rapid fire transmission from other nearby vegetation to a structure. Additionally, the PRC outlines infraction fees, certification, and compliance procedures applicable with state and local building standards, including those described in subdivision (b) of Section 51189 of the Government Code.

Local

Construction and operation of the proposed project would be subject to policies and regulations contained within the general plan, including the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to wildfire. The policies and implementation measures in the Kern County General Plan related to wildfire that are applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development, such as the project. These measures are not listed below, but as stated in Chapter 2, Introduction, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Kern County General Plan

Chapter 4. Safety Element

4.6 Wildland and Urban Fire

Policies

Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.

Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.

Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.

Implementation Measures

Implementation Measure A: Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.

Kern County Fire Code

Chapter 17.32 of the Kern County Municipal Code details the Kern County Fire Code, which is an adoption of the 2016 California Fire Code and the 2015 International Fire Code with some amendments. The purpose of the Kern County Fire Code is to regulate the safeguarding of life, property, and public welfare to a reasonable degree from the hazards of fire; hazardous materials release and/or explosion due to handling of dangerous and hazardous materials; conditions hazardous to life or property in the occupancy and use of buildings and premises; the operation, installation, construction, and location of attendant equipment; the installation and maintenance of adequate means of egress; and providing for the issuance of permits and collection of fees.

Kern County Fire Department Wildland Fire Management Plan

The Kern County Fire Department (KCFD) Wildland Fire Management Plan adopted in 2009 assesses the wildland fire situation throughout the State Responsibility Area (SRA) within the County. The plan includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local area. The plan systematically assesses the existing levels of wildland protection services and identifies high-risk and high-value areas, which are potential locations for costly and damaging wildfires. The plan also ranks the areas in terms of priority needs and prescribes what can be done to reduce future costs and losses. A portion of the project site is located within a moderate FHSZ (KCFD 2009).

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan, adopted in March 2018, is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local area. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and levels of service to systematically assess the existing levels of wildland protection services, and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2017, included completion of a number of fuel reduction projects; the hosting of three wildfire safety expos in battalions 1, 5, and 7; and the award of three SRA fuel reduction grants for a total of \$500,000. The plan gives an overview of KCFD Battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the Plan, 69% of Kern County areas are within an SRA. The County is broken up into six different fuel management areas: Tehachapi, Western Kern, Northern Kern, Mount Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 2 (Western Kern) (KCFD 2009).

Fire Prevention Standard No. 503-507 Solar Panels

The KCFD Fire Prevention Division adopted Standard No. 503-507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019. The standard is implemented in accordance with the 2016 CFC and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. The standard outlines installation requirements for photovoltaic ground-mounted and roof-mounted solar panels. The proposed project would utilize solar panels for the operation of the eASP composting operations and would therefore be required to comply with the ground mounted requirements of this fire prevention standard. Ground mounted solar panel requirements of this standard include water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD 2019).

4.18.4 Impacts and Mitigation Measures

This section evaluates the impacts related to wildfire hazards that may occur during construction and operation of the project. It describes the wildfire risks associated with the project 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, and specify the corresponding facilities with the following indicators: COM for eASP Composting Facility, BEF for Bioenergy Facility, and LDF for Landfill Facility.

Methodology

The proposed project's potential impacts associated with wildfires have been evaluated using a variety of resources, including CAL FIRE maps showing FHSZs, FRAP, and fire history;

vegetation data from the Biological Evaluation prepared for the proposed project (Appendix C.1); project location maps; and project characteristics. Wildfire impacts are considered on the basis of: (1) off-site wildland fires that could impact the proposed project; and (2) on-site generated combustion that could affect surrounding areas. Using the aforementioned resources and professional judgment, impacts were analyzed according to California Environmental Quality Act (CEQA) significance criteria described below.

The proposed expansion of waste streams allowed for disposal at the landfill facility and the modification to the hours of operation would not result in new construction, ground disturbance, or other operational changes which could result in impacts related to wildfire hazards; therefore, the impact discussion below focuses on impacts associated with construction and operation of the proposed composting and bioenergy facilities.

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 State 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 FHSZs, and if the project would:

- a. Substantially impair an adopted emergency response plan or emergency evacuation plan;
- b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or
- d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Project Impacts

Impact 4.18-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

The project sites are not classified as being within a high fire hazard severity zone and the project is not anticipated to physically impede the existing emergency response plans,

emergency vehicle access, or personnel access to the sites. In addition, the project sites are located in a rural, sparsely developed area with limited population. The project sites are not located along an identified emergency evacuation route and are not identified in any adopted emergency evacuation plan. Also, in compliance with applicable Fire Code and Building Code requirements, construction managers and personnel would be trained in fire prevention and emergency response. Fire suppression equipment specific to construction would be maintained on site. Additionally, project construction would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. Therefore, the project would not conflict with the implementation of, or physical interference with, an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant.

While impacts would be less than significant, Mitigation Measure MM 4.15-3 (COM, BEF), included in Section 4.15, *Transportation and Traffic*, which requires the preparation of a Construction Traffic Control Plan that considers access for emergency vehicles to the project site, would provide further assurances for emergency access.

Mitigation Measures

Implement Mitigation Measure MM 4.15-3 (COM, BEF) (see Section 4.15, *Transportation and Traffic*, for mitigation measures).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.15-3 (COM, BEF), impacts would be less than significant.

Impact 4.18-2: The project would expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire due to slope, prevailing winds, and other factors.

eASP Composting Facility and Landfill Facility

As described in Chapter 3, *Project Description*, the project proposes to develop a composting facility on an existing landfill associated with Site A. The existing landfill is situated on previously mined land and is adjacent to actively mined lands. The areas surrounding Site A generally consist of mining activities and undeveloped land. No residences are located in the site vicinity.

As described in Section 4.18.2, *Environmental Setting*, and shown on **Figure 4.18-1, Fire Hazard Severity Zones for Local Responsibility Areas**, Site A is located within an area identified as a Moderate and Non-Wildland/Non-Urban FHSZ within the LRA. The site consists almost entirely of flat, developed and disturbed surfaces, except for the northeast portion of the site, which consists of annual grassland and shrubs.

Construction and operation of the composting facility would not result in the removal of on-site vegetation. Vehicles and equipment would be limited to existing access roads and disturbed areas that are denuded of vegetation due to the existing land uses on-site and in immediate surrounding areas. Additionally, the proposed land use would be similar in nature to the existing use of the site and would not result in a material increase in fire risk compared to existing conditions. Similarly, the proposed modification to the hours of operation and waste streams would not result in a change in fire risk at the site. The risk of wildfire is low, and the proposed composting operation would not, due to slope, prevailing winds, or other factors, exacerbate wildfire risks, or thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Impacts would be less than significant.

Bioenergy Facility

As described in Chapter 3, *Project Description*, the project proposes to construct and operate a bioenergy facility within Site B. Site B is situated within a flat, previously disturbed area that is currently used for equipment staging and storage for the adjacent H.M. Holloway Gypsum Mine. The areas surrounding Site B consist generally of mining activities and undeveloped land. No residences are in the site's vicinity.

As described in Section 4.18.2, *Environmental Setting*, and shown on **Figure 4.18-1, Fire Hazard Severity Zones for Local Responsibility Areas**, Site B is within an area identified as a Non-Wildland/Non-Urban FHSZ within the LRA. Construction and operation of the bioenergy facility would occur entirely within existing disturbed areas that are denuded of vegetation due to the existing land uses onsite and immediately surrounding areas. Also, in compliance with applicable Fire Code and Building Code requirements, construction managers and personnel would be trained in fire prevention and emergency response. Fire suppression equipment specific to construction would be maintained on site. Additionally, project construction would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. Therefore, the risk of wildfire is very low, and the project would not, due to slope, prevailing winds, or other factors, exacerbate wildfire risks, or thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

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.

eASP Composting Facility and Landfill Facility

As described in Chapter 3, *Project Description*, the project proposes to develop a composting facility on an existing landfill associated with Site A. The existing landfill is situated on previously mined land and is adjacent to actively mined lands. The areas surrounding Site A generally consist of mining activities and undeveloped land. No residences are located in the site vicinity.

As described in Section 4.18.2, *Environmental Setting*, and shown on **Figure 4.18-1, Fire Hazard Severity Zones for Local Responsibility Areas**, Site A is located within an area identified as a Moderate and Non-Wildland/Non-Urban FHSZ within the LRA. The site consists almost entirely of flat, developed/disturbed surfaces, except for the northeast portion of the site, which consists of annual grassland and shrubs.

Project activities would occur within an existing landfill site and would not result in new ground disturbance outside of existing disturbed areas. The design and construction of the landfill would prevent the spread of landfill fires to the surrounding areas. Perimeter roads and drainage structures surrounding the site are relatively free of vegetation, thus providing a fire break.

Without proper controls, landfill and composting facilities may pose a significant fire hazard. Several types of fires may occur at landfill and composting facilities, including surface, subsurface, and vehicle fires. Subsurface fires are underground fires that typically ignite as a result of spontaneous combustion. Factors involved in assessing the potential significance of fire impacts to landfill and composting facilities are prevention, accessibility of response, and the effects of buried combustion material byproducts (such as methane).

The potential for surface and subsurface fires at the existing landfill is considered low. Current landfill operations include covering the waste daily and compacting the fill, which reduces oxygen intrusion that can create heat and lead to spontaneous combustion. Likewise, vehicle fires are preventable with proper maintenance. In order to assure adequate measures are in place to prevent fires, Mitigation Measure MM 4.8-6 (COM, BEF, LDF) would require the preparation of a Fire Prevention Plan that would detail measures to prevent fire at the project site. Additionally, Mitigation Measure MM 4.8-5 (COM, BEF) would require the landfill facility's Report of Disposal Site Information and Emergency Preparedness Plan to be updated to include the composting facility. Therefore, impacts would be less than significant with mitigation.

Bioenergy Facility

Site B consists entirely of developed and disturbed surfaces and does not support any vegetation. The areas surrounding Site B consist generally of mining activities and

undeveloped land. No residences are in the site's vicinity. Site B is located within an area identified as Non-Wildland/Non-Urban FHSZ. Project activities would have a low risk of causing wildfire due to the location on existing disturbed and developed surfaces and lack of vegetation within the site.

The proposed bioenergy facility would include the following associated infrastructure: a substation, a 4.16/21-kilovolt (kV) transformer, a switchyard, and an overhead generation-tie line (gen-tie line). The substation, 4.16/21 kV transformer, and switchyard would be located adjacent to the bioenergy facility within Site B. As such, this associated infrastructure would not be placed within a high fire hazard zone or in a vegetated area. The gen-tie line would facilitate the export of power generated from the bioenergy facility to the existing Pacific Gas and Electric Company (PG&E) electrical grid. The project would connect the proposed bioenergy facility to the PG&E distribution system at PG&E's Twisselman 2105 distribution circuit on the south side of G P Road, immediately south of Site B. The gen-tie line would extend approximately 12 miles and connect the switchyard to the Twisselman Substation. The gen-tie line would generally trend northwards from the switchyard and span land subject to mining and agricultural uses before heading west along Twisselman Road. Installation of the utility poles would require the establishment of temporary work areas. It is expected that construction crews would access the temporary work areas using existing roadways or overland access routes.

Mitigation Measure MM 4.8-5 (COM, BEF) would require the landfill facility's Report of Disposal Site Information and Emergency Preparedness Plan to be updated prior to operation of the bioenergy facility. Additionally, Mitigation Measure MM 4.8-6 (COM, BEF, LDF) would require the preparation of a Fire Prevention Plan that would detail measures to prevent fires at the project site, including during construction. Impacts would be less than significant with mitigation.

Mitigation Measures

Implement Mitigation Measures MM 4.8-5 (COM, BEF) and MM 4.8-6 (COM, BEF, LDF) (see Section 4.8, *Hazards and Hazardous Materials*, for mitigation measures).

Level of Significance

With implementation of Mitigation Measures MM 4.8-5 (COM, BEF) and MM 4.8-6 (COM, BEF, LDF), 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 slope instability, or drainage changes.

eASP Composting Facility and Landfill Facility

The composting site (Site A) is located on flat to gently sloping terrain. Natural elevations at the project site are generally within the 410- to 425-foot contour on the Antelope Plain,

California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. As described in Section 4.9, *Hydrology and Water Quality*, the site is not located within a mapped flood zone and does not contain any permanent surface water features or constructed drainage features, but is subject to sheet flow.

As described above under Impact 4.18-1, a portion of Site A is located within an area identified as Moderate and Non-Wildland/Non-Urban FHSZ. Project activities would occur within an existing landfill site and would not result in new ground disturbance outside of existing disturbed areas or result in the construction of new impervious surfaces or drainages. As such, construction and operation of the composting facility would not substantially alter existing drainage patterns on the site. Given the nature of project activities, the absence of existing drainage features on the site, the site's flat to gently sloping topography, and the site's location outside of a high and very high FHSZ, there is a low potential for the site to be at risk of post-fire instability, runoff, or drainage changes. As a result, the proposed composting facility would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Impacts would be less than significant with implementation of Mitigation Measure MM 4.6-7 (COM, BEF), which would require preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) for the proposed composting facility.

Bioenergy Facility

The bioenergy site (Site B) is located on flat to gently sloping terrain. Natural elevations at the site are generally within the 410- to 425-foot contour on the Antelope Plain, California USGS 7.5-minute topographic quadrangle. As described in Section 4.9, *Hydrology and Water Quality*, the site is not located within a mapped flood zone and does not contain any surface water features. The site does not contain any constructed drainage features and is subject to sheet flow.

As described above under Impact 4.18-1, Site B is located within an area identified as Non-Wildland/Non-Urban FHSZ. As discussed in Section 4.17, *Utilities and Service Systems*, the bioenergy facility would alter the natural drainage pattern of the site through the development of new impervious surfaces. Construction of the proposed bioenergy facility would increase stormwater runoff and redirect existing drainage patterns. A stormwater drainage system would be required for the proposed bioenergy facility. Runoff patterns are not expected to change following a wildfire, as water would continue to be directed through the stormwater drainage system constructed for the bioenergy facility. With construction of the stormwater drainage system and consideration of the site's flat to gently sloping topography, and the site's location outside of a high and very high FHSZ, there is a low potential for the site to be at risk of post-fire instability, runoff, or drainage changes. Implementation of the proposed bioenergy facility would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Impacts would be less than significant with implementation of Mitigation Measure MM 4.6-7 (COM, BEF), which would require preparation and implementation of a SWPPP for the proposed bioenergy facility.

Mitigation Measures

Implement Mitigation Measure MM 4.6-7 (COM, BEF) (see Section 4.6, *Geology and Soils* for mitigation measure).

Level of Significance

With implementation of Mitigation Measure MM 4.6-7 (COM, BEF), impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative Setting

The geographic scope for cumulative wildfire impacts is considered the southern San Joaquin Valley. This geographic scope was selected because the land within the region possesses relatively similar uses and environment, including agriculture, industrial, highway commercial, rural residential, mineral extraction, electrical power generation, and undeveloped grasslands.

Section 3.8, *Cumulative Effects Overview*, of this EIR discusses cumulative projects near the project (**Table 3-15, Cumulative Projects List**, in Chapter 3, *Project Description*, lists specific projects considered in the cumulative impact analysis). As provided in **Table 3-15, Cumulative Projects List**, in Chapter 3, *Project Description*, three cumulative projects similar to the proposed project are proposed within the greater Kern County area. The first cumulative project involves the expansion of an existing solid waste facility located approximately 8 miles west of the City of Shafter. The second cumulative project is located south of the unincorporated Town of McKittrick and involves expansion of an existing Class II nonhazardous oilfield waste landfill facility. The third cumulative project is located approximately 7.6 miles west of the unincorporated community of Buttonwillow and involves the expansion of an existing hazardous waste facility. These developments could further contribute to the demand for energy in Kern County.

Impacts associated with wildfire hazards are generally site-specific and have limited potential to substantially contribute to other hazards associated with other projects and activities on a local or regional basis. Projects and activities within the County are subject to various regulatory requirements, similar to those discussed here, and would minimize the hazard potential of those activities. Kern County recognizes that wildfire hazards exist throughout the County and everyday life.

Impact 4.18-5: The project would contribute to cumulative wildfire impacts.

eASP Composting Facility, Bioenergy Facility, and Landfill Facility

With regard to impairment of an adopted emergency response plan or emergency evacuation plan, all of the related projects would be required to provide adequate emergency access in

accordance with County Fire Code and Building Code requirements and prior to the issuance of a building permit and, therefore, would have a less-than-significant cumulative impact.

With regard to cumulative impacts related to exposure of project occupants to pollutant concentrations from a wildfire, while the proposed project is not within a LRA, SRA, or FRA identified as having substantial or very high fire risk, some related projects in the area may be. Similar to the proposed project, all related projects would be required to implement a Fire Prevention Plan similar to the one required by Mitigation Measure MM 4.8-5 (COM, BEF, LDF), included in Section 4.8, *Hazards and Hazardous Materials*, and would be required to implement building and design features in accordance with the Fire Code and Building Code to reduce wildfire risk and exposure of occupants to pollutant concentrations from a wildfire. Adherence to the Fire Code and Building Code requirements would minimize potential impacts related to exposure to and the uncontrolled spread of a wildfire and, therefore, would have a less-than-significant cumulative impact.

Related projects may require associated infrastructure such as roads, fuel breaks, and power lines that could exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. These projects would be reviewed by Kern County for land use and zoning consistency and compliance with applicable requirements, and potentially analyzed for environmental impacts. The placement of infrastructure would adhere to all fire codes to minimize the potential fire risk such as siting and design. While the potential for fire is considered low, Mitigation Measure MM 4.8-6 (COM, BEF, LDF), included in Section 4.8, *Hazards and Hazardous Materials*, would be implemented to ensure that a Fire Prevention Plan is prepared that contains notification procedures and emergency fire precautions consistent with the 2016 California Fire Code and Kern County Fire Code for use during construction and operation and, therefore, cumulative impacts would be less than significant.

Some related projects could be proposed in areas that could expose people or structures to risks from downslope or downstream flooding or landslides as a result of post-fire instability. Based on the recent fire events in California, all projects would be required to adhere to Kern County's zoning and land use designations and codes, State and local fire codes, and regulations associated with drainage and site stability. These regulations, policies, and codes would reduce the potential for exposing people or structures to risks from downslope or downstream flooding or landslides as a result of post-fire instability. Each project would require site-specific hydrology and drainage studies for effective drainage design and Mitigation Measure MM 4.6-7 (COM, BEF) would require the project proponent to utilize best management practices (BMPs) and the preparation of a SWPPP, which would further reduce the potential cumulative impacts related to downslope or downstream flooding or landslide as a result of post-fire instability and, therefore, cumulative impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.6-7 (COM, BEF) (see Section 4.6, *Geology and Soils* for mitigation measure) and MM 4.8-5 (COM, BEF) and MM 4.8-6 (COM, BEF, LDF) (see Section 4.8, *Hazards and Hazardous Materials*, for mitigation measures).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.6-7 (COM, BEF), MM 4.8-5 (COM, BEF), and MM 4.8-6 (COM, BEF, LDF), impacts would be less than significant.

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Consequences of Project Implementation

5.1 Environmental Effects Found To Be Less than Significant

California Environmental Quality Act (CEQA) *Guidelines* Section 15128 requires that an EIR “contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR.”

Kern County has engaged the public in the scoping of this Environmental Impact Report (EIR). Comments received during scoping have been considered in the process of identifying issue areas that should receive attention in the EIR. The EIR’s contents were established based on the Notice of Preparation/Initial Study (NOP/IS), included in Appendix A of this EIR, that was prepared in accordance with the State CEQA *Guidelines* and in consideration of public and agency input received during the scoping process.

Issues that were found to have no impact or less-than-significant impacts do not need to be addressed further in this EIR. Based on the findings of the NOP/IS and the results of scoping, it was determined that the project would have no impact with regard to the following impact thresholds:

- Agriculture and Forest Resources; and
- Recreation.

The NOP/IS determined that no lands within or immediately adjacent to the project are identified as “Farmland of Statewide Importance,” “Prime Farmland,” or “Unique Farmland” by the California Department of Conservation Kern County Important Farmland. The site has been continually utilized as a landfill facility since 1997. Due to a lack of farmland on-site, the project does not involve any changes to the existing environment that, due to their location or nature, could result in impacts resulting in the loss of farmland or conversion of farmland to non-agricultural use. Lands within or immediately adjacent to the project sites have been previously excluded from Kern County Agricultural Preserve No. 5 and the project sites are not under a Williamson Act Land Use Contract. No lands within or immediately adjacent to the project are zoned forest land or timberland or contain any forested areas. No impacts to agriculture or forest resources would occur and no further analysis is warranted.

The NOP/IS determined the project does not include new recreational facilities and would not appreciably increase demands on existing facilities. The temporary increase in use of recreation facilities during construction that might be caused by an influx of workers would be minimal. The project would require employees for operation and maintenance activities but would likely

be drawn from the local labor force and would commute from their existing permanent residences to the project site during those times. However, even if the full-time employees were hired from out of the area and relocated to eastern Kern County, the resulting addition of families to this area would not result in a substantial increase in the number of users at local parks. As a result, there would not be a detectable increase in the use of parks or other recreational facilities.

For all other resource areas, this EIR contains a comprehensive analysis of potential environmental impacts. After further study and environmental review, as provided in this EIR, it was determined that project-level impacts in the following areas would be less than significant or could be reduced to less-than-significant levels with mitigation measures; however, these resource areas are evaluated in this EIR for their potential significance:

- Aesthetics
- 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
- Population and Housing
- Public Services
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

5.2 Significant Environmental Effects that Cannot Be Avoided

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

After further study and environmental review, as provided in this EIR, it was determined that project-level and cumulative impacts in the following areas would be significant and unavoidable for the project, even with the incorporation of reasonable mitigation measures, which would attempt to reduce impacts to the greatest extent feasible.

As shown in **Table 5-1**, *Summary of Significant and Unavoidable Impacts of the Project*, impacts in the following areas would be significant and unavoidable, even with the incorporation of feasible mitigation measures that attempt to reduce impacts to the extent feasible.

Table 5-1 Summary of Significant and Unavoidable Impacts of the Project

Project Impacts	Cumulative Impacts
Air Quality	
<p>Due to the open nature of the project site, blowing dust could occur and result in the dispersal of criteria air pollutants, such as particulate matter less than 2.5 microns in diameter (PM_{2.5}), and contribute to the transmission of respiratory diseases like Coronavirus Disease 2019 (COVID-19). Even with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM), the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM_{2.5}, and indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable project-level impacts.</p>	<p>The project would have cumulatively significant and unavoidable air quality impacts related to consistency with existing air quality plans due to the considerable net increase of criteria pollutants after implementation of mitigation. Although implementation of mitigation would not result in significant temporary levels of nitrogen oxides (NO_x) during construction, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health impacts mentioned. As such, cumulative impacts for criteria pollutants would be considered significant and unavoidable.</p>
Biological Resources	
<p>There would be no significant and unavoidable project impacts.</p>	<p>As development increases within Kern County, impacts to biological resources within the region are increasing on a cumulative level. When considered with the number of present and reasonably foreseeable future development projects in the Southern San Joaquin Valley, the project would result in a significant and unavoidable cumulative loss of foraging and nesting habitat for special-status species, even with implementation of project-specific mitigation measures. The loss of foraging and nesting habitat for special-status species that may utilize habitat on the project site would result in a significant and unavoidable cumulative impact.</p>

5.3 Irreversible Impacts

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

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

5.4 Growth Inducement

As described in Chapter 3, *Project Description*, the project includes construction and operation of a 640,000-ton-per-year (TPY) extended Aerated Static Pile (eASP) composting operation, a modification to the waste streams allowed for disposal at the facility, a modification to the hours of operation, and construction and operation of a 3-megawatt (MW) (net) bioenergy facility. The proposed facilities would operate 24 hours a day, 365 days per year. Currently, the Holloway Management Group, LLC employs 70 full-time employees combined for the gypsum mining facility and the landfill. The project would provide new employment consistent with the adopted *Kern County General Plan* goals, plans, and policies. It is anticipated that approximately 90 temporary workers would be needed to complete the construction of the project, and approximately 20 new full-time employees would be needed to operate the new compost facility and bioenergy plant. It is expected that the construction workforce would commute to the site from various local communities and the number of workers expected to relocate to the surrounding area is not expected to be substantial. Thus, the project would have minimal, if any, growth-inducing impacts associated directly or indirectly with population increase in the area.

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

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

6.1 Introduction

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) describe a range of reasonable alternatives to the project or to the location of the project that could feasibly avoid or lessen any significant environmental impacts of the project while attaining most of the project’s basic objectives. An EIR also must compare and evaluate the environmental effects and comparative merits of the alternatives. This chapter describes alternatives considered but eliminated from further consideration (including the reasons for elimination) and compares the environmental impacts of several alternatives retained with those of the project.

The following are key provisions of the State CEQA *Guidelines* (Section 15126.6):

- The discussion of alternatives shall focus on alternatives to the project or its site that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.
- The No Project Alternative shall be evaluated, along with its impacts. The no-project analysis shall discuss the existing conditions at the time the notice of preparation was published, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.
- The range of alternatives required in an EIR is governed by a “rule of reason.” Therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives is selected and discussed in a manner that fosters meaningful public participation and informed decision-making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in State CEQA *Guidelines* Section 15126.6(f)(1)) are environmental impacts, site suitability, economic viability, social and political acceptability, technological capacity, availability of infrastructure, General Plan consistency, regulatory limitations, jurisdictional boundaries, and whether the project

proponent could reasonably acquire, control, or otherwise have access to an alternative site. If an alternative has effects that cannot be reasonably identified, if its implementation is remote or speculative, and if it would not achieve the basic project objectives, it need not be considered in the EIR.

6.1.1 Significant Impacts of the Project after Mitigation

Implementation of the project has the potential to have significant adverse effects on:

- Air Quality (project and cumulative)
- Biological Resources (cumulative only)

Even with the mitigation measures described in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this EIR, impacts in these issue areas would be significant and unavoidable. Therefore, per the State CEQA *Guidelines*, this chapter 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.

Air Quality

With project implementation, short-term and long-term increases in construction and operational emissions of primary concern within the region (i.e., reactive organic gases [ROGs], nitrogen oxides [NO_x], carbon monoxide [CO], sulfur oxide [SO_x], particulate matter less than 10 microns in diameter [PM₁₀], and particulate matter less than 2.5 microns in diameter [PM_{2.5}]) would be minimal and would not exceed applicable significance thresholds with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM). As it relates to consistency with air quality plans, the San Joaquin Valley Air Basin (SJVAB) is designated as nonattainment/severe for State 1-hour ozone standards, nonattainment for State 8-hour ozone standards, nonattainment for State 24-hour and annual arithmetic mean for PM₁₀ standards, nonattainment for State annual arithmetic mean for PM_{2.5} standards, nonattainment/extreme for national 8-hour ozone standards, and nonattainment for national 24-hour and annual arithmetic mean for PM_{2.5} standards. With implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM), the project would not result in significant temporary levels of NO_x, CO, and PM₁₀ emissions during construction and would not obstruct the ability of the San Joaquin Valley Air Pollution Control District (SJVAPCD) to achieve further progress toward attainment of the State standards. However, due to the open nature of the project sites, blowing dust could occur and result in the dispersal of criteria air pollutants such as PM_{2.5} and contribute to the transmission of respiratory diseases like Coronavirus Disease 2019 (COVID-19). Even with implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF),

MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM), the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM_{2.5} along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable project level impact. In addition, on a cumulative level, potential cumulative impacts to air quality could occur from construction and operation of the proposed project in combination with regional growth projections in the same air basin. It is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health impacts mentioned. The SJVAPCD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the SJVAB at the present time and it has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health.

Biological Resources

Given the number of present and reasonably foreseeable future development projects in the Southern San Joaquin Valley, the project, when combined with other projects, would have an incremental contribution to cumulative loss of foraging and nesting habitat for special-status species. Implementation of mitigation measures would reduce impacts to biological resources to less-than-significant levels on the project-level scale. However, when combined with other related development projects proposed throughout Kern County, the cumulative impacts of the proposed project would be significant and unavoidable. Therefore, the proposed project, in combination with all identified cumulative projects, would result in a cumulatively significant impact on migratory birds that may remain significant and unavoidable after implementation of mitigation.

6.2 Project Objectives

As described in Chapter 3, *Project Description*, of this EIR, the following objectives have been established for the project and will aid decision makers in the review of the project and associated environmental impacts:

- Provide regional composting and bioenergy capacity to meet the organic waste diversion requirements enacted by recent California legislation (Assembly Bill [AB] 341, which directs the California Department of Resources Recycling and Recovery [CalRecycle] to increase Statewide diversion of solid waste to 75% by 2020; AB 1826, which requires businesses that generate a specified amount of organic waste per week to arrange for appropriate processing (e.g., composting) for that waste to further reduce landfilling of such organic materials; Senate Bill [SB] 1383, approved November 3, 2020 and set to go into effect January 1, 2022, which establishes targets to achieve a 50% reduction in the level of the statewide disposal of organic waste by 2020 and a 75% by 2025;

- Allow for the installation of a compost facility using a variety of compostable organic streams with a forced aeration system to increase the efficiency of the composting process;
- Allow for the installation of a bioenergy facility using a variety of wood, agricultural residues, and other organic streams to produce biomass based renewable energy;
- Provide a service area, within approximately 150 miles of the project sites, to improve quality and quantity of finished composting products for use by agriculture and landscaping operators;
- To divert organic material from landfills and produce high-quality compost for the agricultural community and other customers while also reducing greenhouse gas (GHG) emissions by keeping organics out of landfills in accordance with SB 1383;
- Increase diversion of organic materials from landfills by providing an approved expanded feedstock list, which includes a variety of wood, agricultural residues, and other organic streams to produce biomass-based compost and renewable energy;
- Provide economic benefits to Kern County through employment of local residents and through the expansion of operational activities and construction of new processing equipment, which has the potential to create new job opportunities;
- Continue to comply with SJVAPCD rules and regulations and changes to those regulations in the future;
- Facilitate the accomplishment of AB 341, which directs CalRecycle to increase Statewide diversion of solid wastes to 75% by 2020;
- Enhance business owners' ability to comply with AB 1826, which requires that as of April 1, 2016, businesses that generate a specified amount of organic waste per week must arrange for recycling services for that organic waste in a specified manner (such as composting) to substantially reduce landfill disposal of food wastes; and
- Continue to accept waste materials by utilizing exhausted mining space without having to open a new landfill pit.

6.3 Overview of the Project

The project would include the following proposed modifications to current operations:

- The construction and operation of a 640,000-ton-per-year (TPY) extended Aerated Static Pile (eASP) composting operation, in response to State climate law mandates to increase composting as part of landfill-related GHG emission reductions, on a 136.2-acre portion of the existing 331-acre Lost Hills Environmental Industrial Landfill that has reached capacity;

- Allow for additional waste streams to be disposed of within the landfill;
- Extend the hours of operation to 24 hours per day, 365 days per year; and
- The construction and operation of a 3-megawatt (MW) (net) bioenergy facility on an approximate 6-acre portion of the Holloway Gypsum Mine.

The project sites are in an unincorporated area of northwestern Kern County on Kern County Assessor’s Parcel Numbers (APNs) 057-220-16, 057-220-21, 057-240-29, 057-240-50, and 057-240-60. The project site is comprised of two adjacent sites, Sites A and B, which are separated by Holloway Road. The sites are approximately 1.5 and 2.25 miles, respectively, north of State Route (SR-) 46. **Figure 3-6, *Composting Facility Site Layout***, and **Figure 3-7, *Typical Pile Layout***, illustrate a detailed site plan for the composting operation, and **Figures 3-9 through 3-13, *Bioenergy Facility Site Layout***, illustrate the detailed site plan for the bioenergy facility. See Chapter 3, *Project Description*, of this EIR, for a detailed project description.

6.4 Overview of Alternatives to the Project

Under CEQA, and as indicated in California Public Resources Code (PRC) Section 21002.1(a), the identification and analysis of alternatives to a project is a fundamental aspect of the environmental review process and is required to ensure the consideration of ways to mitigate or avoid the significant environmental effects of a project. Based on the significant environmental impacts of the project, the aforementioned objectives established for the project, and the feasibility of the alternatives considered, three alternatives, including the No Project Alternative as required by CEQA, are considered in this chapter. **Table 6-1, *Summary of Development Alternatives***, provides a summary of the relative impacts and feasibility of each alternative. A complete discussion of each alternative is also provided below. The Environmentally Superior Alternative, as required by CEQA, is described in Section 6.8, *Environmentally Superior Alternative*.

Table 6-1 Summary of Development Alternatives

Description	Basis for Selection and Summary of Analysis
<i>Proposed Project</i>	
Proposed modifications to the list of allowable waste stream materials and hours of operation for the landfill facility and construction and operation of a new 640,000 TPY eASP composting facility and a new 3 MW bioenergy facility. Implementation of the project would require modification to the existing landfill Conditional Use Permit (CUP) #9, Map 28 to include modifications to current waste streams, hours of operation, and operation of an eASP composting facility; modification to existing mine site CUP #1, Map 28 to remove the proposed bioenergy project site (Site B); and issuance of new CUP #13, Map 28 for the establishment of the proposed bioenergy project site.	N/A

Table 6-1 Summary of Development Alternatives

Description	Basis for Selection and Summary of Analysis
Alternative A: No Project Alternative	
<p>No development would occur on the project sites, no modifications to existing CUPs or new CUPs would be required, the existing landfill would continue to operate as currently permitted, and the project sites would remain unchanged.</p>	<ul style="list-style-type: none"> • Required by CEQA • Avoids need for modified or new CUP • Avoids all significant and unavoidable impacts • Less-than-significant impacts in all remaining environmental issue areas
Alternative B: Reduced Footprint Alternative	
<p>The Reduced Footprint Alternative would include all components of the proposed project, with the exception that the composting facility would only include Phases 1 and 3 and would no longer include the proposed Phase 2 area. This alternative would reduce the size of the proposed composting area footprint by 21.2 acres (approximately 15.6%). Alternative B would still allow for construction and operation of the proposed bioenergy facility and would still create a composting facility to divert organic material from landfills and produce high-quality compost for the agricultural community and other customers to meet the organic waste diversion requirements enacted by recent California legislation.</p>	<ul style="list-style-type: none"> • Reduced impacts related to air quality, GHGs, biological resources, transportation and traffic, and utilities and service systems due to reduced extent of ground disturbance, use of construction equipment, and water required to construct the composting facility. • Similar impacts in all remaining environmental issue areas.
Alternative C: No Bioenergy Facility Alternative	
<p>The No Bioenergy Facility Alternative would include all the project components of the proposed project except for the proposed bioenergy facility. Under Alternative C, the existing and proposed facilities would operate under the existing permitted hours of operation associated with the current CUP #9, Map 28. Therefore, the facilities would operate from 6:00 a.m. to 4:00 p.m., 7 days per week instead of 24 hours per day, 365 days per year.</p>	<ul style="list-style-type: none"> • Would not require modification to existing mine site CUP #1, Map 28 to remove the proposed bioenergy project site or issuance of new CUP #13, Map 28 for the establishment of the proposed bioenergy project site. • Greater overall impacts to GHG emissions • Less-than-significant impacts in all remaining environmental issue areas

6.4.1 Alternative A: No Project Alternative

The State 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. Accordingly, the No Project Alternative (Alternative A) assumes that construction and operation of the proposed eASP composting operation and bioenergy facility and the proposed modifications to the allowable waste streams and hours of operation for the landfill facility would not occur. Under the No Project Alternative, the existing landfill would continue to operate as currently permitted and none of the project objectives discussed above would be met.

6.4.2 Alternative B: Reduced Footprint Alternative

The Reduced Footprint Alternative (Alternative B) would include all the components of the proposed project, with the exception that the composting facility would only include Phases 1 and 3 and would no longer include the proposed Phase 2 area. This alternative would reduce the size of the proposed composting area footprint by 21.2 acres (approximately 15.6%). Under

Alternative B, the proposed modifications to the allowable waste stream materials and hours of operation for the landfill facility would still occur. Alternative B would still allow for construction and operation of the proposed bioenergy facility and would still create a composting facility to divert organic material from landfills and produce high-quality compost for the agricultural community and other customers to meet the organic waste diversion requirements enacted by recent California legislation.

The reduced footprint would reduce the extent of ground disturbance, use of construction equipment, and water required to construct and operate the composting facility. Additionally, during operation, the reduced footprint is expected to require fewer hauling trips, require reduced operation of construction equipment, and generate fewer emissions. Although the reduced footprint would still create a composting facility, it would reduce production of compost by 45,322 TPY.

6.4.3 Alternative C: No Bioenergy Facility

The No Bioenergy Facility Alternative (Alternative C) would include all the project components of the proposed project except for the proposed bioenergy facility. Under Alternative C, the proposed modifications to the allowable waste stream materials and hours of operation for the landfill facility and construction and operation of the proposed eASP composting facility would occur; however, the bioenergy would not be developed; CUP #1, Map 28 would not be modified; a new CUP would not be required; and no physical changes to Site B would occur.

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 (State 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 (State CEQA *Guidelines* Section 15126[f][2]). Kern County considered multiple alternatives to reduce impacts to air quality (project and cumulative) and biological resources (cumulative only). Per CEQA, the lead agency may make an initial determination as to which alternatives are feasible and warrant further consideration, and which are infeasible. The following alternatives were initially considered but were eliminated from further consideration in this EIR because they do not meet project objectives or were infeasible.

- Alternative Location
- Reduced Operations

6.5.1 Alternative Location

State CEQA *Guidelines* Section 15126.6(f)(2)(A) states that “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 alternative location may not include the appropriate land use and

zoning designations or the Solid Waste Disposal Facility Buffer, which prohibits other uses within 1,320 feet of a permitted disposal area.

Successful development of the project at an alternative location would depend on a number of factors, including existing site conditions, proximity to sensitive receptors, and availability of water and connection to required utilities. Site-specific studies would be required to evaluate a new site and its adequacy to support the proposed project. Issues to be addressed for a new site are dominated by availability and suitability. Extensive overall feasibility studies would need to be prepared to evaluate the following environmental and logistical concerns:

- water supply availability;
- distance to markets and potential increases in haul truck trip distances;
- available truck routes, road design, and existing and predicted future traffic volumes and levels of service;
- proximity to a State highway;
- existing and future surrounding land uses;
- proximity to sensitive receptors;
- effects on surrounding land uses, including aesthetics, air pollutants, light, and noise;
- potential impacts to biological resources, including special-status species and their habitat;
- potential presence of and impacts to significant cultural and paleontological resources; and
- options and costs for composting and bioenergy operations.

No specific location with attributes necessary to accomplish the project objectives is known in enough detail to be identified as a specific alternative site. Because of the multiple and undetermined site conditions that could exist at an alternative location, Kern County, as the Lead Agency, does not possess sufficient information to determine whether potential sites at alternative locations are available to feasibly meet the project objectives.

For the reasons discussed above, Kern County has eliminated alternative locations from further consideration.

6.5.2 Reduced Operations

A reduced operations alternative would include all the project components of the proposed project except for the proposed extension of hours. Under this alternative the existing and proposed facilities would operate under the existing permitted hours of operation associated with the current Conditional Use Permit (CUP) #9, Map 28. Therefore, the facilities would operate from 6:00 a.m. to 4:00 p.m., 7 days per week instead of 24 hours per day, 365 days per year. Ultimately, it was determined that it would not be feasible for the proposed facilities to operate from 6:00 a.m. to 4:00 p.m., 7 days per week instead of 24 hours per day, 365 days per

year due to the need for ongoing and nighttime operations. Therefore, because this alternative was determined to be infeasible to implement, it has been eliminated from further consideration.

6.6 Analysis Format

In accordance with State CEQA *Guidelines* Section 15126.6(d), each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be less, similar, or greater than the corresponding impacts of the project. Furthermore, each alternative is evaluated to determine whether the project objectives identified in Chapter 3, *Project Description*, of this EIR would be mostly attained by the alternative. The project's impacts that form the basis of comparison in the alternatives analysis are those impacts that represent a conservative assessment of project impacts. The evaluation of each of the alternatives follows the process described below:

1. The net environmental impacts of the alternative after implementation of reasonable mitigation measures are determined for each environmental issue area analyzed in this EIR.
2. 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."
3. 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 Table 6-2, the references to "less, similar, or greater," refer to the impact of the alternative compared to the project, and the impacts "no impact (NI)," "less than significant (LTS)," "less than significant with mitigation (LTSM)," or "significant and unavoidable (SU)," in the parentheses refer to the significance conclusion of the specific alternative.

Table 6-2 Comparison of Alternatives

Resource Area	Proposed Project	Alternative A (No Project)	Alternative B (Reduced Footprint)	Alternative C (No Bioenergy Facility)
Aesthetics	LTS	Less (NI)	Less (LTS)	Less (LTS)
Air Quality	SU (project and cumulative)	Less (NI)	Less (SU [project and cumulative])	Less (SU [project and cumulative])
Biological Resources	LTSM (project); SU (cumulative only)	Less (NI)	Less (LTSM [project]; SU [cumulative only])	Less (LTSM [project]; SU [cumulative only])
Cultural Resources	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Energy	LTS	Less (NI)	Less (LTS)	Less (LTS)
Geology and Soils	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Greenhouse Gas Emissions	LTSM	Less (NI)	Less (LTS)	Less (LTS)
Hazards and Hazardous Materials	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Hydrology and Water Quality	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Land Use and Planning	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Mineral Resources	LTS	Less (NI)	Less (LTS)	Less (LTS)
Noise	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Population and Housing	LTSM	Less (NI)	Similar (LTS)	Similar (LTS)
Public Services	LTSM	Less (NI)	Similar (LTSM)	Similar (LTSM)
Transportation and Traffic	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Tribal Cultural Resources	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Utilities and Service Systems	LTSM	Less (NI)	Less (LTSM)	Less (LTSM)
Wildfire	LTSM	Less (NI)	Similar (LTSM)	Less (LTSM)

6.7 Impact Analysis

6.7.1 Alternative A: No Project Alternative

Environmental Impact Analysis

Aesthetics

Under the No Project Alternative, no development would take place on the project sites (Sites A and B). The project sites would remain in their current state as disturbed land used for existing landfill operations and no change to the scenic vista or existing visual character and quality of the sites would occur. Impacts to scenic resource and daytime and nighttime views

in the area would not occur. Therefore, there would be no impact and the No Project Alternative would result in less impacts to aesthetics compared to the proposed project.

Air Quality

Under the No Project Alternative, the project sites would remain undeveloped and there would be no construction or operational activities that would generate air emissions. No exceedance of the SJVAPCD's regional and localized significance thresholds or conflict with the attainment of the standard would occur, nor would the No Project Alternative contribute to a cumulative net increase of criteria pollutant in the projects' region. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to air quality compared to the proposed project.

Biological Resources

Under the No Project Alternative, the project sites (Sites A and B) would remain disturbed but undeveloped and existing biological resources on the project sites would remain undisturbed since no construction or operation would occur. The No Project Alternative would not contribute to a cumulative loss of special-status species or habitat. As such, the No Project Alternative would not have a substantial adverse effect on any species identified as a candidate, sensitive, or special-status species; have a substantial adverse effect on any riparian habitat or other sensitive natural communities; have a substantial adverse effect on Federally protected wetlands; interfere substantially with the movement of any native resident or migratory fish or wildlife species; conflict with any local policies or ordinances protecting biological resources; or conflict the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved State, regional, or local HCP. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to biological resources compared to the proposed project.

Cultural Resources

Under the No Project Alternative, the project sites would remain undeveloped and no ground-disturbing activities would occur. As such, disturbance to potential historical resources, archaeological resources, or human remains located on-site would not occur. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to cultural resources compared to the project.

Energy

Under the No Project Alternative, the project site would remain undeveloped and no energy consumption activities would occur. As such, the No Project Alternative would not result in wasteful, inefficient, or unnecessary consumption of energy resources and would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to energy compared to the project.

Geology and Soils

Under the No Project Alternative, the project site would remain undeveloped and no ground disturbance would occur. As such, the No Project Alternative would not directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, and landslides; result in substantial soil erosion or loss of topsoil; result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse; be located on expansive soil or soils incapable of adequately supporting the use of septic tanks or 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 impacts related to geology and soils compared to the proposed project.

Greenhouse Gas Emissions

Under the No Project Alternative, emissions associated with increased hours of operation and construction and operation of the proposed eASP composting and bioenergy facilities would not occur. Therefore, those emissions that contribute to GHGs would be eliminated and no impacts would occur related to generating emissions that may have a significant impact on the environment or consistency with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. However, the potential offset of GHG emissions resulting from operation of the bioenergy facility would not be realized. Therefore, impacts would be less than significant under this alternative as it relates to generating GHG emissions that may have a significant impact on the environment as this alternative would not offset GHG emissions and the No Project Alternative would result in greater impacts related to GHG emissions compared to the proposed project.

Hazards and Hazardous Materials

Under the No Project Alternative, the project site would remain undeveloped, and no construction or operational activities would occur. The project site would remain in its current condition and, as such, this alternative would not involve the routine transport, use, or disposal of hazardous materials associated with the project site; create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; emit hazardous waste within 0.25 mile of a school; be located on a site that is included on a list of hazardous materials sites; result in a safety hazard or excessive noise; impair implementation of an adopted emergency response plan; expose people or structures to significant risk of loss, injury, or death involving wildland fires; or generate vectors. Therefore, there would no impact and the No Project Alternative would result in less impacts related to hazards and hazardous materials compared to the project.

Hydrology and Water Quality

Under the No Project Alternative, the project site's existing hydrology and water quality would remain unchanged as no development or ground disturbance would occur on the project site. As such, this alternative would not violate water quality standards or waste discharge requirements; substantially decrease groundwater supplies; substantially alter the existing

drainage patterns of the site or area in a manner that would result in substantial erosion and/or sedimentation on-site or off-site; result in flooding on-site or off-site; create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage system or impede or redirect flood flows; result in flood hazards, tsunamis, or seiche zones; or conflict or obstruct implementation of a water quality plan. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to hydrology and water quality compared to the project.

Land Use and Planning

The No Project Alternative would not develop any new uses at the project site and, consequently, would not require modification of existing CUPs or issuance of a new CUP. As such, the No Project Alternative would not cause a significant environmental impact due to physically dividing an established community or conflicting with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to land use and planning compared to the project.

Mineral Resources

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 result in the loss of availability of a known mineral resource or locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to mineral resources compared to the project.

Noise

Under the No Project Alternative, the project site would remain undeveloped. Noise sources from construction and operation would not be present on-site, and existing noise conditions would remain the same. As such, the No Project Alternative would not result in generation of a substantial temporary or permanent increase in ambient noise levels; generate excessive ground-borne vibration; or expose people residing or working in the project area to excessive noise levels. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to noise compared to the project.

Public Services

Under the No Project Alternative, the project site would remain undeveloped and no new demand for fire or law enforcement protection services would occur. As such, the No Project Alternative would not result in the need for new or physically altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire and law enforcement protection. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to public services compared to the project.

Transportation

Under the No Project Alternative, the new eASP composting and bioenergy facilities would not be constructed, and this alternative would not introduce new construction- and operational-related trips. Existing traffic patterns and volumes on nearby roadways would remain unchanged. As such, the No Project Alternative would not conflict with a program, plan, ordinance, or policy addressing the circulation system, nor would the No Project Alternative conflict or be inconsistent with State CEQA *Guidelines* Section 15064.3(b). In addition, the No Project Alternative would not substantially increase hazards due to a geometric design feature or result in inadequate emergency access. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to transportation compared to the project.

Tribal Cultural Resources

Under the No Project Alternative, the project site would remain undeveloped and no ground-disturbing activities would occur. According to record searches and tribal resource consultations, no tribal resources are present on the project sites. 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 (CRHR) 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 similar impacts related to tribal cultural resource compared to the project.

Utilities and Service Systems

Under the No Project Alternative, the proposed eASP composting and bioenergy facilities would not be constructed and there would be no new demand for utilities and service systems on the project site. As such, the No Project Alternative would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects, generate solid waste in excess of State or local standards, or conflict with Federal, State, and local management and reduction statutes and regulations related to solid waste. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to utilities and service systems compared to the project.

Wildfire

Under the No Project Alternative, the proposed eASP composting and bioenergy facilities 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 less impacts related to wildfire compared to the project.

Comparison of Impacts

The No Project Alternative would avoid the significant and unavoidable impacts associated with development of the project. This alternative would result in less impacts to all environmental issue areas with the exception of GHG emissions; since this alternative would not offset GHGs through the operation of a bioenergy facility, impacts to GHG emissions would be greater under this alternative.

Relationship to Project Objectives

The No Project Alternative would not achieve any of the project objectives listed above in Section 6.2, *Project Objectives*, including assisting California in meeting its organic waste diversion requirements enacted by recent California legislation (AB 341, AB 1826, and SB 1383). Although this alternative would create less environmental impacts overall, the objectives that shape the project would not be realized under this alternative.

6.7.2 Alternative B: Reduced Footprint Alternative

Environmental Impact Analysis

Aesthetics

Under the Reduced Footprint Alternative, all project components would be implemented; however, the proposed eASP composting facility would only include Phases 1 and 3 and would no longer include the proposed Phase 2 area. This alternative would reduce the size of the proposed composting area footprint by 21.2 acres (approximately 15.6%).

This alternative would be visually similar to the proposed project but would reduce the extent of ground disturbance within Site A. Types of uses and sources of light in the project area would be the same; however, potential impacts to scenic vistas, scenic resource, visual character and quality, and daytime and nighttime views would be slightly reduced compared to the proposed project due to the reduced extent of ground disturbance. Therefore, impacts would be less than significant under the Reduced Footprint Alternative and this alternative would result in less aesthetics impacts compared to the project.

Air Quality

Similar to the project, the Reduced Footprint Alternative would result in short- and long-term emissions from the use of heavy construction equipment; however, it would require a reduced need for construction equipment use and ground disturbance for construction and operation of the reduced footprint composting facility. The Reduced Footprint Alternative is expected to result in reduced short- and long-term emissions; however, it could still exceed SJVAPCD thresholds for permitted volatile organic compound (VOC) emissions and non-permitted NO_x and PM₁₀ emissions. Therefore, Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF),

MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM), provided in Section 4.2, *Air Quality*, of this EIR, would apply to the Reduced Footprint Alternative.

While temporary impacts during initial implementation would be less than significant at the project level, consistent with the proposed project, they would be significant and unavoidable at the cumulative level because it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the SJVAB would be affected by the health impacts mentioned. Thus, emissions from this alternative and related projects would cumulatively combine to result in a significant and unavoidable impact.

As determined above, cumulative impacts from initial implementation would be significant and unavoidable because Kern County does not have jurisdiction and control over all potential projects in the SJVAB. As cumulative impacts from initial implementation would be significant and unavoidable, the Reduced Footprint Alternative would also obstruct the air quality planning goals set forth by SJVAPCD. Therefore, similar to the proposed project, cumulative air quality impacts during initial implementation would be significant and unavoidable.

Implementation of this alternative would expose sensitive receptors to substantial pollutant concentrations. The alternative's potential to expose sensitive receptors to substantial pollutant concentrations associated with visibility impacts would be similar to that of the project and would be less than significant with adherence to SJVAPCD Rule 4101, which does not allow discharge into the atmosphere for any single source of emission. In addition, during initial implementation of this alternative, it is possible that on-site workers could be exposed to Valley Fever as fugitive dust is generated during initial implementation. However, this alternative would implement dust-minimizing techniques as required to be implemented through SJVAPCD Regulation VIII and required Conservation Management Practice Plans, these measures would be similar to measures provided in Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), and MM 4.2-4 (COM, BEF). However, 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 contribute to the transmission of respiratory diseases like COVID-19. Based on the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM_{2.5} along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations, development of the Reduced Footprint Alternative would result in significant and unavoidable project-level impacts, similar to the proposed project.

Overall, project and cumulative impacts under the Reduced Footprint Alternative would be significant and unavoidable and would result in similar but reduced air quality impacts compared to the project.

Biological Resources

Under the Reduced Footprint Alternative, the elimination of Phase 2 (approximately 21 acres) in the southwest portion of Site A would avoid potential impacts to the annual grassland habitat present within that area and any species that may be using that area as habitat. Although the

Reduced Footprint Alternative would result in reduced ground disturbance through the elimination of the Phase 2 area from the proposed composting facility, it would result in similar impacts related to direct and indirect impacts to candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and Wildlife (CDFW). Additionally, the Reduced Footprint Alternative would still result in the same indirect impacts to species that have the potential to occur within the reduced Site A and Site B, including the loss of approximately 100 acres of habitat on-site; disturbance from construction activities, such as noise, vibration, and dust, which may irritate these species and cause them to leave burrows and/or nests and migrate to adjacent areas where they may be more susceptible to predation and/or direct impacts from construction activities; and degradation of suitable habitat on- and off-site resulting from ground disturbance, erosion, and sedimentation. Therefore, Mitigation Measures MM 4.3-1 (COM, BEF), MM 4.3-2 (COM, BEF), MM 4.3-3 (COM, BEF), MM 4.3-4 (COM), MM 4.3-5 (COM), MM 4.3-6 (COM), MM 4.3-7 (COM, BEF), MM 4.3-8 (COM), MM 4.3-9 (COM), MM 4.3-10 (COM), MM 4.3-11 (COM), MM 4.3-12 (COM), and MM 4.3-13 (COM), provided in Section 4.3, *Biological Resources*, of this EIR, and MM 4.1-1 (COM, BEF, LDF), provided in Section 4.1, *Aesthetics*, of this EIR, would apply to the Reduced Footprint Alternative. Project-level impacts would be similar but reduced compared to the proposed project.

Similar to the proposed project, the Reduced Footprint Alternative would have no impact on riparian habitat, wetlands, or other sensitive natural community identified in regional or local plans, policies, or regulations, or by the USFWS or CDFW.

As it relates to the movement of any resident or migratory fish or wildlife species, the Reduced Footprint Alternative would result in similar impacts related to new fencing and lighting; therefore, Mitigation Measure MM 4.1-1 (COM, BEF, LDF) would apply to this alternative and impacts would be less than significant.

The Reduced Footprint Alternative would not conflict with the provisions of an adopted HCP, NCCP, or other approved State, regional, or local HCP, similar to the project.

Given the proposed cumulative projects in the San Joaquin Valley, the Reduced Footprint Alternative, when combined with other projects, would have an incremental contribution to cumulative loss of foraging and nesting habitat for special-status species. Implementation of mitigation measures would reduce the Reduced Footprint Alternative's contribution to potential impacts to biological resources to less-than-significant levels on the project-level scale. However, when combined with other related development projects proposed throughout Kern County, the cumulative impacts of the Reduced Footprint Alternative would be significant and unavoidable.

Cultural Resources

Under the Reduced Footprint Alternative, the elimination of Phase 2 (approximately 21 acres) in the southwest portion of Site A would reduce the overall extent of ground disturbance and potential for inadvertent impacts to previously unidentified buried cultural resources. The project sites are entirely disturbed, currently support an active landfill facility (Site A) and an

equipment staging and storage yard (Site B), and are subjected to ongoing ground-disturbing activities. All project activities would occur within existing disturbed and developed areas. It is unlikely that any surficial historical or archaeological resources are present within the project sites due to the extent of previous and ongoing ground-disturbing activities within the project sites. Nonetheless, the potential (albeit low) remains that ground-disturbing activities associated with the Reduced Footprint Alternative could result in the inadvertent discovery of a previously unidentified archaeological resource. Therefore, the potential for disturbance or destruction of one or more currently unknown culturally significant resources is considered potentially significant. Implementation of Mitigation Measures MM 4.4-1 (BEF), MM 4.4-2 (BEF), MM 4.4-3 (BEF), and MM 4.4-4 (COM, BEF), provided in Section 4.4, *Cultural Resources*, of this EIR, would reduce this impact to less than significant, similar to the proposed project.

There is no indication that any particular location within the project sites has been used for purposes of human burial in the recent or distant past. However, in the unlikely event that human remains are inadvertently discovered during project initial implementation activities, this alternative would comply with California Health and Safety Code Section 7050.5, which includes requirements similar to Mitigation Measure MM 4.4-4 (COM, BEF) and would ensure that any human remains encountered are appropriately addressed and impacts would be less than significant.

Based on the above, the Reduced Footprint Alternative would result in less cultural resource impacts compared to the proposed project as this alternative would result in less ground disturbance than required for the proposed project.

Energy

The Reduced Footprint Alternative would require similar heavy-duty equipment and vehicle trips during construction and operation; however, the use of heavy-duty equipment during construction and operation would be reduced compared to the proposed project as a result of the elimination of Phase 2 (approximately 21 acres) in the southwest portion of Site A for the proposed composting facility. Energy consumption associated with construction and operation of the bioenergy facility and the continuation of landfill operations under the Reduced Footprint Alternative would be the same as the proposed project. During operation, transportation-related energy (petroleum-based fuels) use would be reduced under this alternative than under the proposed project due to the reduced composting area. The Reduced Footprint Alternative would comply with California Air Resources Board (CARB) regulations regarding heavy-duty truck idling limits and the use of on- and off-road equipment, and all vehicles would meet Federal and State standards for efficiency and emissions. Compliance with Federal and State regulations and standards aimed at improving vehicle energy utilization efficiency would ensure operation activities would not result in the wasteful, inefficient, or unnecessary consumption of transportation fuels, and impacts would be reduced to less than significant.

Geology and Soils

The Reduced Footprint Alternative would require reduced ground disturbance compared to the proposed project as a result of the elimination of Phase 2 (approximately 21 acres) in the

southwest portion of Site A for the proposed composting facility. Implementation of 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 California Building Code (CBC) 2019 Edition (California Code of Regulations [CCR] Title 24). Adherence to all applicable regulations would mitigate any potential fault rupture-related impacts associated with this alternative. Compliance with the applicable CBC seismic design standards and implementation of Mitigation Measures MM 4.2-4 (COM, BEF), MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-6 (BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), MM 4.6-9 (BEF), MM 4.6-10 (BEF), MM 4.6-11 (BEF), and MM 4.6-12 (COM, BEF), provided in Section 4.6, *Geology and Soils*, of this EIR, would reduce potentially significant impacts from ground shaking, liquefaction, and erosion on people and structures to less than significant. Impacts related to the construction of a new septic system for the bioenergy facility would be the same for the Reduced Footprint Alternative as the proposed project; therefore, impacts would be less than significant with Mitigation Measure MM 4.6-6 (BEF). Due to the reduced extent of ground disturbance associated with the Reduced Footprint Alternative, the potential for inadvertent impacts to paleontological resources would be reduced. However, ground disturbance associated with the Reduced Footprint Alternative could still result in inadvertent impacts to a paleontological resource, if present; therefore, implementation of Mitigation Measures MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), and MM 4.6-9 (BEF) would be required to reduce impacts to be less than significant.

Greenhouse Gas Emissions

Similar to the project, the Reduced Footprint Alternative would result in short- and long-term emissions from the use of heavy construction equipment; however, it would require a reduced need for construction equipment use and ground disturbance for construction and operation of the reduced footprint composting facility. The Reduced Footprint Alternative is expected to result in reduced short- and long-term emissions; however, it would still generate GHG emissions. Additionally, the reduced size of the composting facility would not allow for the diversion of the same quantity of organic waste away from landfill facilities; therefore, it would not indirectly decrease the same level of cumulative GHG emissions as the proposed project. Implementation of Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), and MM 4.2-4 (COM, BEF), provided in Section 4.2, *Air Quality*, of this EIR, would apply to the Reduced Footprint Alternative to reduce impacts to be less than significant.

Hazards and Hazardous Materials

Due to the reduced extent of ground disturbance associated with the Reduced Footprint Alternative, the potential for inadvertent impacts related to the disturbance of unknown hazardous materials would be reduced. However, all other impacts related to hazards and hazardous materials associated with the Reduced Footprint Alternative would be the same as the proposed project. However, as with the proposed project, standard Best Management Practices (BMPs) would ensure that exposure to potentially hazardous materials used or found on-site would be reduced or minimized. Implementation of Mitigation Measures MM 4.8-1 (COM, BEF), MM 4.8-2 (COM, BEF), MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), MM 4.8-6 (COM, BEF, LDF), MM 4.8-7 (COM, BEF, LDF), MM 4.8-8 (COM,

BEF, LDF), MM 4.15-3 (COM, BEF), and MM 4.17-3 (COM, BEF), provided in Section 4.8, *Hazards and Hazardous Materials*, of this EIR, would be required to reduce potential impacts to be less than significant.

Hydrology and Water Quality

The Reduced Footprint Alternative would require reduced ground disturbance compared to the proposed project as a result of the elimination of Phase 2 (approximately 21 acres) in the southwest portion of Site A for the proposed composting facility. However, disturbance of soil during construction could still result in soil erosion and subsequent water quality degradation through increased turbidity and sediment transport through runoff. Compliance with the Stormwater Pollution Prevention Plan (SWPPP) requirements and implementation of appropriate BMPs and Mitigation Measures MM 4.6-7 (COM, BEF) and MM 4.8-3 (COM, BEF) would be required for the Reduced Footprint Alternative to prevent the discharge of sediment and polluted surface water during construction activities associated with the proposed project. Additionally, the proposed project is subject to all applicable Federal, State, and Kern County water quality regulations. This includes, but is not limited to, required adherence to the Clean Water Act (CWA), National Pollutant Discharge Elimination System (NPDES) requirements, the National Flood Insurance Act, California Department of Water Resources (DWR) requirements, the California Fish and Game Code, the California Water Code, the *Kern County General Plan*, and the *Kern County Zoning Ordinance*.

This alternative would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan as the Reduced Footprint Alternative would require BMPs and drainage control requirements that would be consistent with the Central Valley Region Water Quality Control Plan (Basin Plan). As it relates to groundwater supplies, construction and operation of the Reduced Footprint Alternative is expected to require less water than the proposed project due to the reduced size of the composting facility; therefore, impacts related to groundwater are expected to be less than the proposed project and less than significant.

Land Use and Planning

The Reduced Footprint Alternative would be at the same location as the proposed project but would be a reduced footprint. Surrounding land uses primarily include agriculture, mineral and petroleum, and solid waste disposal facility-related uses. Based on the rural composition of the project area and extent of agricultural- and industrial-related land use designations, the project would not divide an established community, and no impacts would occur as a result of the Reduced Footprint Alternative. The Reduced Footprint Alternative would require the same land use-related discretionary approvals as the proposed project, as further described in Chapter 3, *Project Description*, of the EIR. With approval of the above listed CUPs, the Reduced Footprint Alternative would be consistent with the zoning ordinance and would not conflict with land use or zoning classification for the sites. The Reduced Footprint Alternative would result in similar but reduced impacts to special-status species, cultural and paleontological resources, air quality, and water quality; therefore, the same mitigation measures would apply to this alternative to minimize impacts. Further, the Reduced Footprint Alternative would be compatible with surrounding land uses and would not conflict with surrounding agricultural,

mineral, or petroleum uses. Additionally, it would provide an alternative source of clean energy and would help to divert additional organic waste from existing landfills. Therefore, impacts would be less than significant with implementation of the mitigation measures included throughout this EIR.

Mineral Resources

There are no known mineral resources or mining activities within Sites A or B. The Reduced Footprint Alternative would result in reduced ground disturbance within Site A during construction and operation and reduced inadvertent impacts to unknown buried mineral resources; however, impacts to mineral resources related to the Reduced Footprint Alternative would be similar to the proposed project. Therefore, the Reduced Footprint Alternative would not result in the loss of availability of a known mineral resource or locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, mineral resource impacts would be less than significant under this alternative and similar to the less-than-significant impacts identified for the proposed project.

Noise

Similar to the project, the Reduced Footprint Alternative would result in short- and long-term noise from the use of heavy construction equipment; however, it would require a reduced need for construction equipment use and ground disturbance for construction and operation of the reduced footprint composting facility. The nearest noise-sensitive receptors (i.e., rural residences) are located approximately 2.3 miles from the project site. Given the distance between the project site and the nearest sensitive receptors, construction of the Reduced Footprint Alternative is not expected to generate construction or operational noise that would exceed a maximum noise level threshold in the vicinity of sensitive receptors, pursuant to local noise thresholds for residences. As stated in Mitigation Measure MM 4.12-1 (COM, BEF), provided in Section 4.12, *Noise*, of this EIR, construction activities would be conducted in accordance with applicable local noise standards (i.e., construction activities will not take place before 6:00 a.m. or after 9:00 p.m. on weekdays and before 8:00 a.m. or after 9:00 p.m. on weekends) and would not exceed established thresholds for sensitive receptors. Therefore, implementation of Mitigation Measure MM 4.12-1 (COM, BEF) would apply to this alternative to further reduce impacts from construction of the project. As with the project, operation of the Reduced Footprint Alternative would not result in the generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards; thus, impacts would be less than significant.

Population and Housing

Although the Reduced Footprint Alternative would result in construction and operation of a reduced footprint for the proposed composting facility, it is conservatively assumed that this alternative would require the same number of employees as the proposed project: 90 temporary workers to complete construction and 20 new full-time employees to operate the facilities. As concluded for the proposed project, this increase in employees is not considered significant given the scope of the existing population and available housing in the area. Additionally, the Reduced Footprint Alternative would not displace any existing housing such that it would

necessitate the construction of replacement housing elsewhere. Therefore, impacts would be the same as the proposed project and would be less than significant.

Public Services

Although the Reduced Footprint Alternative would result in a smaller disturbance footprint, the proposed uses and number of employees would remain the same and potential impacts related to the provision of public services for this alternative would be consistent with the proposed project. Therefore, the Reduced Footprint Alternative could have a significant impact on fire protection services; however, impacts are expected to be less than significant with implementation of Mitigation Measures MM 4.8-1 (COM, BEF), MM 4.8-2 (COM, BEF), MM 4.8-3 (COM, BEF), MM 4.8-4 (BEF), MM 4.8-5 (COM, BEF), MM 4.8-6 (COM, BEF, LDF), provided in Section 4.8, *Hazards and Hazardous Materials*, of this EIR. Implementation of Mitigation Measure MM 4.14-1 (COM, BEF), provided in Section 4.14, *Public Services*, of this EIR, would ensure payment of development impact fees by the project proponent to compensate for any increase in service demand by the proposed project. New or physically altered Kern County Sheriff's Office (KCSO) or California Highway Patrol (CHP) facilities would not be required to accommodate the limited increase in needs from the Reduced Footprint Alternative and impacts to law enforcement services are expected to be less than significant. Implementation of the Reduced Footprint Alternative is not anticipated to have a significant increase in the number of users at local schools, parks, or other public facilities (e.g., libraries, hospitals, post offices).

Transportation and Traffic

The Reduced Footprint Alternative is anticipated to require fewer trips and reduced vehicle miles traveled (VMT) during construction and operation as a result of the reduced size of the composting facility; however, impacts related to transportation and traffic are expected to be similar to the proposed project. Existing plus Reduced Footprint Alternative traffic volume would not degrade the performance of the study intersections or segment of Holloway Road below Level of Service (LOS) C. Therefore, the Reduced Footprint Alternative has no obligation to fund any improvements that enhance or improve LOS. All intersections would operate with an acceptable LOS during peak hours in the existing year and future year with the addition of project traffic and would not warrant a traffic signal. There are no pedestrian or public transit facilities in the vicinity of the proposed project. No elements of the Reduced Footprint Alternative that would conflict with alternative transportation programs have been identified; therefore, the Reduced Footprint Alternative would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, or pedestrian facilities and impacts would be less than significant. The Reduced Footprint Alternative would utilize the same entrance and exit points as the proposed project; therefore, with implementation of Mitigation Measures MM 4.15-1 (COM), MM 4.15-2 (COM), MM 4.15-3 (COM, BEF), and MM 4.15-4 (COM, BEF), provided in Section 4.15, *Transportation and Traffic*, of this EIR, the Reduced Footprint Alternative would not contribute to an increase in hazards due to a design feature. Impacts would be similar but reduced compared to the proposed project and would be less than significant.

Tribal Cultural Resources

According to records searches and tribal resource consultations, no tribal cultural resources are present within or in the immediate vicinity of Sites A or B. Additionally, the sites are highly disturbed, support an existing landfill facility that was previously mined (Site A) and an equipment laydown and storage area (Site B), and are subject to ongoing ground-disturbing activities. All ground-disturbing activities would occur within existing disturbed and developed areas. It is unlikely that any surface tribal cultural resources would be present within these disturbed areas due to previous and ongoing ground-disturbing activities. While no tribal cultural resources have been identified within or immediately adjacent to the project site, a potential (albeit low) possibility remains that ground-disturbing project activities under the Reduced Footprint Alternative could result in the inadvertent discovery of a previously unidentified tribal cultural resource. Implementation of Mitigation Measures MM 4.4-1 (BEF), MM 4.4-2 (BEF), MM 4.4-3 (BEF), and MM 4.4-4 (COM, BEF), provided in Section 4.4, *Cultural Resources*, of this EIR, would reduce impacts to a less-than-significant level. Impacts would be reduced but similar to the proposed project and would be less than significant with mitigation.

Utilities and Service Systems

Construction and operation of the Reduced Footprint Alternative is expected to result in similar but reduced impacts related to utilities and service systems compared to the proposed project due to the reduced size of the composting facility. Specifically, the Reduced Footprint Alternative is expected to require 4,090 fewer gallons per day (GPD) of water for dust control during construction and 35 fewer acre-feet per year (AFY) of water through the elimination of Phase 2 of the proposed composting facility. Since the number of employees is expected to be the same as the proposed project, wastewater generated during construction and operation of the Reduced Footprint Alternative is expected to be similar to the proposed project. Mitigation Measure MM 4.17-1 (BEF), provided in Section 4.17, *Utilities and Service Systems*, of this EIR, would require the project proponent to have the new septic and wastewater facilities approved by Kern County Public Health Services Department (KCPHSD), Environmental Health Division.

Proposed ground-disturbing activities required for construction of the Reduced Footprint Alternative would modify the existing drainage pattern of the proposed project area. All stormwater would be collected and controlled on-site through development of the proposed retention pond. Mitigation Measure MM 4.17-2 (COM) requires the project proponent modify the existing Waste Discharge Requirements (WDRs) for the landfill or obtain a new WDR, as required by Central Valley Regional Water Quality Control Board (RWQCB). The Reduced Footprint Alternative must also comply with the requirements of the State's General Permit under the NPDES program. The permit's requirements include preparation of a SWPPP. Through prescribing BMPs, the objective of the SWPPP is to reduce or eliminate sediment or other pollutants from entering stormwater runoff. The SWPPP shall identify the precise implementation of BMPs. Implementation of the BMPs outlined in the SWPPP would avoid and/or minimize potential impacts such as erosion, sedimentation, and runoff that could result from construction of the Reduced Footprint Alternative. With Implementation of Mitigation Measure MM 4.17-2 (COM), potential impacts related to the construction of new or the

expansion of existing stormwater drainage facilities would be less than significant with regard to the Reduced Footprint Alternative.

The Reduced Footprint Alternative is expected to generate less solid waste during construction but would also allow for reduced diversion of composting materials due to the reduced footprint. Impacts related to solid waste are expected to be similar to the proposed project. Construction and operation of the Reduced Footprint Alternative would not 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; however, Mitigation Measure MM 4.17-3 (COM, BEF) has been identified to require that the project proponent designate an on-site recycling coordinator to facilitate recycling efforts to further reduce solid waste generated by the facility. Further, Mitigation Measures MM 4.17-4 (COM, LDF), and MM 4.17-5 (COM) have been identified to require adherence to the applicable payment provisions and reporting procedures to ensure that project demand does not exceed the existing capacity of solid waste facilities. With implementation of Mitigation Measures MM 4.17-3 (COM, BEF), MM 4.17-4 (COM, LDF), and MM 4.17-5 (COM), impacts would be less than significant.

Potential environmental impacts of electrical, gas, and telecommunication connections associated with the Reduced Footprint Alternative would be the same as the proposed project.

Wildfire

The project sites are not classified as being within a high fire hazard severity zone (FHSZ) and the Reduced Footprint Alternative is not anticipated to physically impede the existing emergency response plans, emergency vehicle access, or personnel access to the sites. In addition, the project sites are located in a rural, sparsely developed area with limited population. The project sites are not located along an identified emergency evacuation route and are not identified in any adopted emergency evacuation plan. Also, in compliance with applicable California Fire Code and CBC requirements, construction managers and personnel would be trained in fire prevention and emergency response. Fire suppression equipment specific to construction would be maintained on-site. Additionally, construction would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. Therefore, the Reduced Footprint Alternative would not conflict with the implementation of, or physical interference with, an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant.

Construction and operation of the Reduced Footprint Alternative would not result in the removal of on-site vegetation but would result in reduced ground disturbance compared to the proposed project. Vehicles and equipment would be limited to existing access roads and disturbed areas that are denuded of vegetation due to the existing land uses on-site and in immediate surrounding areas. Additionally, the proposed land use would be similar in nature to the existing use of the site and would not result in a material increase in fire risk compared to existing conditions. Similarly, the proposed modification to the hours of operation and waste streams would not result in a change in fire risk at the site. The risk of wildfire is very low, and the Reduced Footprint Alternative would not, due to slope, prevailing winds, or other factors,

exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Impacts would be less than significant.

In addition, construction and operational impacts would be further reduced with implementation of Mitigation Measure MM 4.8-5 (COM, BEF), provided in Section 4.8, *Hazards and Hazardous Materials*, of this EIR. The Reduced Footprint Alternative is not anticipated to expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire due to slope, prevailing winds, and other factors during construction. Impacts would be less than significant.

Mitigation Measure MM 4.8-6 (COM, BEF, LDF) would be implemented to ensure that a Fire Safety Plan is prepared that contains notification procedures and emergency fire precautions consistent with the 2016 California Fire Code and Kern County Fire Code for use during construction and operation. Therefore, impacts would be less than significant with mitigation.

Comparison of Impacts

Overall, the Reduced Footprint Alternative would result in similar but reduced impacts for all issue areas compared to the proposed project. The Reduced Footprint Alternative would reduce the extent of ground disturbance, use of construction equipment, and water required to construct and operate the composting facility. Additionally, during operation, the reduced footprint is expected to require fewer hauling trips, require reduced operation of construction equipment, and generate fewer emissions.

The impacts from implementing the Reduced Footprint Alternative would be similar to the proposed project but of a lesser intensity based on the reduced acreage for operations, specifically related to air quality, cultural resources, geology and soils, GHG, hazards and hazardous materials, hydrology and water quality, land use, public services, transportation and traffic, tribal cultural resources, and utilities and service systems. The Reduced Footprint Alternative further incorporates mitigation measures recommended in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, as discussed in the individual resource sections above. All mitigation measures identified for the proposed project would apply to the Reduced Footprint Alternative and all significant and unavoidable impacts identified for the proposed project would remain significant and unavoidable under the Reduced Footprint Alternative.

Relationship to Project Objectives

The Reduced Footprint Alternative would achieve all of the project objectives listed above in Section 6.2, *Project Objectives*; however, it would reduce the diversion rate of compostable materials and would reduce the production of compost by 45,322 TPY.

6.7.3 Alternative C: No Bioenergy Facility Alternative

Environmental Impact Analysis

Aesthetics

Under the No Bioenergy Facility Alternative, all project components would be implemented except for the bioenergy facility; the proposed modifications to the allowable waste stream materials and hours of operation, as well as construction and operation of the proposed eASP composting facility, would occur.

This alternative would result in the same aesthetic impacts associated with construction and operation of the composting facility within Site A; however, Site B would no longer be associated with the proposed project and no changes to that site or aesthetic impacts associated with a bioenergy facility would occur. Types of uses and sources of light in the proposed project area would be the same; however, potential impacts to scenic vistas, scenic resource, visual character and quality, and daytime and nighttime views would be reduced compared to the proposed project due to the reduced extent of ground disturbance and elimination of the bioenergy facility. Therefore, impacts would be less than significant under the No Bioenergy Facility Alternative and this alternative would result in less aesthetics impacts compared to the project.

Air Quality

Similar to the project, the No Bioenergy Facility Alternative would result in short- and long-term emissions from the use of heavy construction equipment; however, it would require a reduced need for construction equipment use and ground disturbance due to the elimination of the bioenergy facility and removal of Site B from the project. The No Bioenergy Facility Alternative is expected to result in reduced short- and long-term emissions; however, operation of the composting facility would still exceed annual and daily SJVAPCD thresholds for permitted VOC emissions and non-permitted NO_x emissions, as shown in **Table 6-3, Project Emissions Compared to Annual CEQA Emissions Thresholds**, and **Table 6-4, Project Emissions Compared to Daily CEQA Emissions Thresholds**.

Table 6-3 Project Emissions Compared to Annual CEQA Emissions Thresholds

Category	Source	Criteria Pollutant (TPY)					
		NO _x	VOC	CO	SO _x	PM ₁₀	PM _{2.5}
Permitted	Landfill Facility	4.7	15.6	1.5	0.2	1.6	1.6
	SJVAPCD Threshold	10	10	100	27	15	15
	Exceed threshold?	No	Yes	No	No	No	No
	Composting Facility	0	199.5	0	0	0.04	0.04
	SJVAPCD Threshold	10	10	100	27	15	15
	Exceed threshold?	No	Yes	No	No	No	No
	Total Project Emissions	4.7	215.1	1.5	0.2	1.64	1.64
	SJVAPCD Threshold	10	10	100	27	15	15
	Exceed threshold?	No	Yes	No	No	No	No
	Non-Permitted	Landfill (No Change)	0	0	0	0	0
Composting Facility		20.4	1.6	27.6	0.09	14.4	2.3
SJVAPCD Threshold		10	10	100	27	15	15
Exceed threshold?		Yes	No	No	No	No	No
Total Project Emissions		20.4	1.6	27.6	0.09	14.4	2.3
SJVAPCD Threshold		10	10	100	27	15	15
Exceed threshold?		Yes	No	No	No	No	No

Source: Yorke Engineering 2020

Table 6-4 Project Emissions Compared to Daily CEQA Emissions Thresholds

Category	Source	Criteria Pollutant (TPY)					
		NO _x	VOC	CO	SO _x	PM ₁₀	PM _{2.5}
Permitted	Landfill	25.9	85.5	8	1.2	8.6	8.6
	SJVAPCD Threshold	100	100	100	100	100	100
	Exceed threshold?	No	No	No	No	No	No
	Compost	0	1,093	0	0	0.2	0.03
	SJVAPCD Threshold	100	100	100	100	100	100
	Exceed threshold?	No	Yes	No	No	No	No
	Total Project Emissions	25.9	1,178.5	8	1.2	8.8	8.63
	SJVAPCD Threshold	100	100	100	100	100	100
	Exceed threshold?	No	Yes	No	No	No	No
	Non-Permitted	Landfill (No Change)	0	0	0	0	0
Compost		111.8	8.7	150.8	0.08	78.8	12.6
SJVAPCD Threshold		100	100	100	100	100	100
Exceed threshold?		Yes	No	Yes	No	No	No
Total Project Emissions		111.8	8.7	150.8	0.08	78.8	12.6
SJVAPCD Threshold		100	100	100	100	100	100
Exceed threshold?		Yes	No	Yes	No	No	No

Source: Yorke Engineering 2020

Therefore, Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), MM 4.2-4 (COM, BEF), MM 4.2-5 (COM, BEF), MM 4.2-6 (COM, BEF), MM 4.2-7 (LDF), MM 4.2-8 (COM, BEF, LDF), MM 4.2-9 (COM, BEF, LDF), MM 4.2-10 (COM, BEF, LDF), and MM 4.2-11 (COM), provided in Section 4.2, *Air Quality*, of this EIR, would apply to the No Bioenergy Facility Alternative. While temporary impacts during initial implementation would be less than significant at the project level, consistent with the proposed project, they would be significant and unavoidable at the cumulative level because it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the SJVAB would be affected by the health impacts mentioned. Thus, emissions from this alternative and related projects would cumulatively combine to result in a significant and unavoidable impact.

As determined above, cumulative impacts from initial implementation would be significant and unavoidable because Kern County does not have jurisdiction and control over all potential projects in the SJVAB. As cumulative impacts from initial implementation would be significant and unavoidable, the No Bioenergy Facility Alternative would also obstruct the air quality planning goals set forth by the SJVAPCD. Therefore, similar to the project, cumulative air quality impacts during initial implementation would be significant and unavoidable.

Implementation of this alternative would expose sensitive receptors to substantial pollutant concentrations. The alternative's potential to expose sensitive receptors to substantial pollutant concentrations associated with visibility impacts would be similar to that of the project and would be less than significant with adherence to SJVAPCD Rule 4101, which does not allow discharge into the atmosphere for any single source of emission. In addition, during initial implementation of this alternative, it is possible that on-site workers could be exposed to Valley Fever as fugitive dust is generated during initial implementation. However, this alternative would implement dust-minimizing techniques as required to be implemented through SJVAPCD Regulation VIII and required Conservation Management Practice Plans, these measures would be similar to measures provided in Mitigation Measures MM 4.2-1 (COM, BEF, LDF), MM 4.2-2 (COM, BEF), MM 4.2-3 (COM, BEF), and MM 4.2-4 (COM, BEF). However, 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 contribute to the transmission of respiratory diseases like COVID-19. Based on the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM_{2.5} along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations, development of the No Bioenergy Facility Alternative would result in significant and unavoidable project-level impacts, similar to the proposed project.

Overall, project and cumulative impacts under the No Bioenergy Facility Alternative would be significant and unavoidable and would result in similar but reduced air quality impacts compared to the proposed project.

Biological Resources

Under the No Bioenergy Facility Alternative, the elimination of the bioenergy facility and Site B from the project would reduce the extent of ground disturbance and new development;

however, Site B currently consists of disturbed areas and is devoid of vegetation and habitat suitable for special-status species. Although the No Bioenergy Facility Alternative would result in reduced ground disturbance through the elimination of the bioenergy facility and Site B, it would result in similar impacts related to direct and indirect impacts to candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by USFWS or CDFW. Additionally, the No Bioenergy Facility Alternative would still result in the same indirect impacts to species that have the potential to occur within reduced Site A, including the loss of approximately 120 acres of habitat on-site; disturbance from construction activities, such as noise, vibration, and dust, which may irritate these species and cause them to leave burrows and/or nests and migrate to adjacent areas where they may be more susceptible to predation and/or direct impacts from construction activities; and degradation of suitable habitat on- and off-site resulting from ground disturbance, erosion, and sedimentation. Therefore, Mitigation Measures MM 4.3-1 (COM, BEF), MM 4.3-2 (COM, BEF), MM 4.3-3 (COM, BEF), MM 4.3-4 (COM), MM 4.3-5 (COM), MM 4.3-6 (COM), MM 4.3-7 (COM, BEF), MM 4.3-8 (COM), MM 4.3-9 (COM), MM 4.3-10 (COM), MM 4.3-11 (COM), MM 4.3-12 (COM), and MM 4.3-13 (COM), provided in Section 4.3, *Biological Resources*, of this EIR, and MM 4.1-1 (COM, BEF, LDF), provided in Section 4.1, *Aesthetics*, of this EIR, would apply to the No Bioenergy Facility Alternative. Project-level impacts would be similar but reduced compared to the proposed project.

Similar to the proposed project, the No Bioenergy Facility Alternative would have no impact on riparian habitat, wetlands, or other sensitive natural community identified in regional or local plans, policies, or regulations, or by the USFWS or CDFW.

As it relates to the movement of any resident or migratory fish or wildlife species, the No Bioenergy Facility Alternative would result in similar impacts related to new fencing and lighting within Site A; therefore, Mitigation Measure MM 4.1-1 (COM, BEF, LDF) would apply to this alternative and impacts would be less than significant.

The No Bioenergy Facility Alternative would not conflict with the provisions of an adopted HCP, NCCP, or other approved State, regional, or local HCP, similar to the proposed project.

Given the proposed cumulative projects in the San Joaquin Valley, the No Bioenergy Facility Alternative, when combined with other projects, would have an incremental contribution to cumulative loss of foraging and nesting habitat for special-status species. Implementation of mitigation measures would reduce the No Bioenergy Facility Alternative's contribution to potential impacts to biological resources to less-than-significant levels on the project-level scale. However, when combined with other related development projects proposed throughout Kern County, the cumulative impacts of the No Bioenergy Facility Alternative would be significant and unavoidable.

Cultural Resources

Under the No Bioenergy Facility Alternative, the elimination of the bioenergy facility and Site B would reduce the overall extent of ground disturbance and potential for inadvertent impacts to previously unidentified buried cultural resources. Site A is entirely disturbed and currently supports an active landfill facility and is subjected to ongoing ground-disturbing activities. All

project activities would occur within existing disturbed and developed areas. There is no indication that any particular location within the project site has been used for purposes of human burial in the recent or distant past. However, in the unlikely event that human remains are inadvertently discovered during project initial implementation activities, this alternative would comply with California Health and Safety Code Section 7050.5, which includes requirements similar to Mitigation Measure MM 4.4-4 (COM, BEF), and would ensure that any human remains encountered are appropriately addressed and impacts would be less than significant.

Based on the above, the No Bioenergy Facility Alternative would result in less cultural resource impacts compared to the proposed project, as this alternative would result in less ground disturbance than required for the proposed project.

Energy

The No Bioenergy Facility Alternative would require similar heavy-duty equipment and vehicle trips during construction and operation; however, the use of heavy-duty equipment during construction and operation would be reduced compared to the proposed project as a result of the elimination of the bioenergy facility. Energy consumption would be limited to the continuation of landfill operation and construction and operation of the proposed composting facility. The No Bioenergy Facility Alternative would require 104,356 fewer gallons of fuel during construction, 154,827 fewer gallons of gasoline per year during operation, and would not require natural gas. The No Bioenergy Facility Alternative would comply with CARB regulations regarding heavy-duty truck idling limits and the use of on- and off-road equipment, and all vehicles would meet Federal and State standards for efficiency and emissions. Compliance with Federal and State regulations and standards aimed at improving vehicle energy utilization efficiency would ensure operation activities would not result in the wasteful, inefficient, or unnecessary consumption of transportation fuels, and impacts would be reduced to less than significant.

Geology and Soils

The No Bioenergy Facility Alternative would require reduced ground disturbance compared to the proposed project as a result of the elimination of the bioenergy facility and Site B. Implementation of the No Bioenergy Facility Alternative would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Kern County has adopted the CBC 2019 Edition (CCR Title 24), and adherence to all applicable regulations would mitigate any potential fault rupture-related impacts associated with this alternative. Compliance with the applicable CBC seismic design standards and implementation of Mitigation Measures MM 4.6-1 (COM, BEF), MM 4.6-2 (COM), MM 4.6-3 (COM), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-7 (COM, BEF), MM 4.6-8 (COM, BEF), and MM 4.6-12 (COM, BEF), provided in Section 4.6, *Geology and Soils*, of this EIR, would reduce potentially significant impacts from ground shaking, liquefaction, and erosion on people and structures to less than significant. Under the No Bioenergy Facility Alternative, a new septic system would not be required; therefore, Mitigation Measure MM 4.6-9 (BEF) would not apply to this alternative. Due to the reduced extent of ground disturbance associated with the No Bioenergy Facility Alternative, the potential for inadvertent impacts to paleontological resources would

be reduced. However, ground disturbance associated with the No Bioenergy Facility Alternative could still result in inadvertent impacts to a paleontological resource, if present; therefore, implementation of Mitigation Measures MM 4.6-7 (COM, BEF) and MM 4.6-8 (COM, BEF) would be required to reduce impacts to be less than significant.

Greenhouse Gas Emissions

Similar to the project, the No Bioenergy Facility Alternative would result in short- and long-term emissions from the use of heavy construction equipment; however, it would require a reduced need for construction equipment use and ground disturbance due to the elimination of the bioenergy facility and Site B. As provided in **Table 6-5, Combined Facilities Construction and Operation GHG Emissions**, the combined GHG emissions from the landfill and composting facilities would result in a net reduction of approximately 245,879.3 metric tons of carbon dioxide equivalent (MTCO_{2e}) per year.

Table 6-5 Combined Facilities Construction and Operation GHG Emissions

Facility	MTCO ₂ /Yr	MTCH ₄ /Yr	MTN ₂ O/Yr	Total MTCO _{2e} /Yr
Landfill Facility	20,516	-219	0	15,998
Compost Facility	35.7	1,133.8	234.9	-261,877.3
Total	20,480.3	914.8	234.9	-245,879.3

Note: MTCO₂ = metric tons of carbon dioxide; MTCH₄ = metric tons of methane; MTN₂O = metric tons of nitrous oxide
Source: Yorke Engineering 2020

Because the project would result in a net reduction of GHG emissions, the project would not generate GHG emissions in concentrations sufficient to have a significant impact on the environment. Because the project results in a net reduction of GHG emissions, the project would not conflict with an adopted GHG emission reduction program. Therefore, GHG impacts associated with the No Bioenergy Facility Alternative would be less than significant.

Hazards and Hazardous Materials

Due to the reduced extent of ground disturbance associated with the No Bioenergy Facility Alternative, the potential for inadvertent impacts related to the disturbance of unknown hazardous materials within Site B would be reduced. However, all other impacts related to hazards and hazardous materials associated with the No Bioenergy Facility Alternative would be the same as the proposed project. However, as with the proposed project, standard BMPs would ensure that exposure to potentially hazardous materials used or found on-site would be reduced or minimized. Implementation of Mitigation Measures MM 4.8-1 (COM, BEF), MM 4.8-2 (COM, BEF), MM 4.8-3 (COM, BEF), MM 4.8-5 (COM, BEF), MM 4.8-6 (COM, BEF, LDF), MM 4.8-7 (COM, BEF, LDF), MM 4.8-8 (COM, BEF, LDF), MM 4.15-3 (COM, BEF), and MM 4.17-3 (COM, BEF), provided in Section 4.8, *Hazards and Hazardous Materials*, of this EIR, would be required to reduce potential impacts to be less than significant; however, a separate Emergency Preparedness Plan and Hazardous Materials Business Plan would not need to be prepared for the bioenergy facility, as described in MM 4.8-4 (BEF).

Hydrology and Water Quality

The No Bioenergy Facility Alternative would require reduced ground disturbance compared to the proposed project as a result of the elimination of the bioenergy facility and Site B. However, disturbance of soil during construction within Site A could still result in soil erosion and subsequent water quality degradation through increased turbidity and sediment transport through runoff. Compliance with the SWPPP requirements and implementation of appropriate BMPs and Mitigation Measures MM 4.6-1 (COM, BEF), MM 4.6-4 (COM, BEF), MM 4.6-5 (COM, BEF), MM 4.6-7 (COM, BEF), and MM 4.8-3 (COM, BEF) provided in Section 4.6, *Geology and Soils*, and in Section 4.8, *Hazards and Hazardous Materials*, of this EIR, would be required for the No Bioenergy Facility Alternative to prevent the discharge of sediment and polluted surface water during construction activities associated with the proposed project. Additionally, the proposed project is subject to all applicable Federal, State, and Kern County water quality regulations. This includes, but is not limited to, required adherence to the CWA, NPDES requirements, the National Flood Insurance Act, DWR requirements, the California Fish and Game Code, the California Water Code, the *Kern County General Plan*, and the Kern County Zoning Ordinance.

This alternative would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan as the No Bioenergy Facility Alternative would require BMPs and drainage control requirements that would be consistent with the Basin Plan. As it relates to groundwater supplies, construction and operation of the No Bioenergy Facility Alternative is expected to require less water than the proposed project due to the elimination of the bioenergy facility and Site B; therefore, impacts related to groundwater are expected to be less than the proposed project and less than significant.

Land Use and Planning

The No Bioenergy Facility Alternative would be at the same location as the proposed project but would not include Site B. Surrounding land uses primarily include agriculture, mineral and petroleum, and solid waste disposal facility-related uses. Based on the rural composition of the project area and extent of agricultural- and industrial-related land use designations, the project would not divide an established community, and no impacts would occur as a result of the No Bioenergy Facility Alternative. The No Bioenergy Facility Alternative would only require an Amendment to CUP #9, Map 28 of the existing Class III Non-Hazardous Industrial Waste Landfill to include a revision to the allowable waste streams and a revision to the hours of operation. This alternative would not require an amendment to the boundaries of the CUP #1, Map 28 of the existing mining facility to remove approximately 6 acres of the project site (Site B) or issuance of a new CUP for the construction of the bioenergy facility, as further described in Chapter 3, *Project Description*, of the EIR. With approval of the above-listed CUP modification, the No Bioenergy Facility Alternative would be consistent with the zoning ordinance and would not conflict with land use or zoning classification for the sites. The No Bioenergy Facility Alternative would result in similar but reduced impacts to special-status species, cultural and paleontological resources, air quality, and water quality; therefore, the same mitigation measures would apply to this alternative to minimize impacts. Further, the No Bioenergy Facility Alternative would be compatible with surrounding land uses and would not conflict with surrounding agricultural, mineral, or petroleum uses. Additionally, it would

provide an alternative source of clean energy and would help to divert additional organic waste from existing landfills. Therefore, impacts would be less than significant with implementation of the mitigation measures included throughout this EIR.

Mineral Resources

There are no known mineral resources or mining activities within Sites A or B. The No Bioenergy Facility Alternative would result in reduced ground disturbance through the removal of Site B and reduced inadvertent impacts to unknown buried mineral resources; however, impacts to mineral resources related to the No Bioenergy Facility Alternative within Site A would be similar to the proposed project. Therefore, the No Bioenergy Facility Alternative would not result in the loss of availability of a known mineral resource or locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, mineral resource impacts would be less than significant under this alternative and similar to the less-than-significant impacts identified for the proposed project.

Noise

Similar to the proposed project, the No Bioenergy Facility Alternative would result in short- and long-term noise from the use of heavy construction equipment; however, it would require a reduced need for construction equipment use and ground disturbance due to the removal of Site B and the bioenergy facility. The nearest noise-sensitive receptors (i.e., rural residences) are located approximately 2.3 miles from the project site. Given the distance between the project site and the nearest sensitive receptors, construction of the No Bioenergy Facility Alternative is not expected to generate construction or operational noise that would exceed a maximum noise level threshold in the vicinity of sensitive receptors, pursuant to local noise thresholds for residences. As stated in Mitigation Measure MM 4.12-1 (COM, BEF), provided in Section 4.12, *Noise*, of this EIR, construction activities would be conducted in accordance with applicable local noise standards (i.e., construction activities will not take place before 6:00 a.m. or after 9:00 p.m. on weekdays and before 8:00 a.m. or after 9:00 p.m. on weekends) and would not exceed established thresholds for sensitive receptors. Therefore, implementation of Mitigation Measure MM 4.12-1 (COM, BEF) would apply to this alternative to further reduce impacts from construction of the project. As with the proposed project, operation of the No Bioenergy Facility would not result in the generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards; thus, impacts would be less than significant.

Population and Housing

The No Bioenergy Facility Alternative would result in construction and operation of a reduced footprint through the removal of Site B and the bioenergy facility and would require 80 fewer temporary workers during construction and eight to 12 fewer full-time employees during operation. As concluded for the proposed project, the increase in employees is not considered significant given the scope of the existing population and available housing in the area. Additionally, the No Bioenergy Facility Alternative would not displace any existing housing such that it would necessitate the construction of replacement housing elsewhere. Therefore, impacts would be the same as the proposed project and would be less than significant.

Public Services

The No Bioenergy Facility Alternative would result in a smaller disturbance footprint through the removal of Site B and the bioenergy facility and a reduced number of temporary and full-time employees; therefore, potential impacts related to the provision of public services for this alternative would be similar but reduced compared to the proposed project. Therefore, the No Bioenergy Facility Alternative could have a significant impact on fire protection services; implementation of Mitigation Measure MM 4.14-1 (COM, BEF), provided in Section 4.14, *Public Services*, of this EIR, would ensure payment of development impact fees by the project proponent to compensate for any increase in service demand by the proposed project, and Mitigation Measure MM 4.8-6 (COM, BEF, LDF) would ensure a Fire Prevention Plan is prepared and implemented during construction and operation of the No Bioenergy Facility Alternative. New or physically altered KCSO or CHP facilities would not be required to accommodate the limited increase in needs from the No Bioenergy Facility Alternative and impacts to law enforcement services are expected to be less than significant. Implementation of the No Bioenergy Facility Alternative is not anticipated to have a significant increase in the number of users at local schools, parks, or other public facilities (e.g., libraries, hospitals, post offices).

Transportation and Traffic

The No Bioenergy Facility Alternative is anticipated to require fewer trips and reduced VMT during construction and operation as a result of the removal of the bioenergy facility; however, impacts related to transportation and traffic are expected to be similar to the proposed project. Existing plus No Bioenergy Facility Alternative traffic volume would not degrade the performance of the study intersections or segment of Holloway Road below LOS C. Therefore, the No Bioenergy Facility Alternative has no obligation to fund any improvements that enhance or improve LOS. All intersections would operate with an acceptable LOS during peak hours in the existing year and future year with the addition of project traffic and would not warrant a traffic signal. There are no pedestrian or public transit facilities in the vicinity of the project. No elements of the No Bioenergy Facility Alternative that would conflict with alternative transportation programs have been identified; therefore, the No Bioenergy Facility Alternative would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, or pedestrian facilities, and impacts would be less than significant. The No Bioenergy Facility Alternative would utilize the same entrance and exit points as the proposed project, with the exception of access for Site B; therefore, with implementation of Mitigation Measures MM 4.15-1 (COM), MM 4.15-2 (COM), MM 4.15-3 (COM, BEF), and MM 4.15-4 (COM, BEF), provided in Section 4.15, *Transportation and Traffic*, of this EIR, the No Bioenergy Facility Alternative would not contribute to an increase in transportation or traffic-related hazards due to a design feature. Impacts would be similar but reduced compared to the proposed project and would be less than significant.

Tribal Cultural Resources

According to records searches and tribal resource consultations, no tribal cultural resources are present within or in the immediate vicinity of Sites A or B. Additionally, the sites are highly disturbed, support an existing landfill facility that was previously mined (Site A) and an

equipment laydown and storage area (Site B), and are subject to ongoing ground-disturbing activities. All ground-disturbing activities under the No Bioenergy Facility Alternative would occur within existing disturbed and developed areas within Site A. It is unlikely that any surface tribal cultural resources would be present within these disturbed areas due to previous and ongoing ground-disturbing activities. While no tribal cultural resources have been identified within or immediately adjacent to the project site, a potential (albeit low) possibility remains that ground-disturbing project activities under the No Bioenergy Facility Alternative could result in the inadvertent discovery of a previously unidentified tribal cultural resource. Implementation of Mitigation Measure MM 4.4-4 (COM, BEF), provided in Section 4.4, *Cultural Resources*, of this EIR, would reduce impacts to a less-than-significant level. Impacts would be reduced but similar to the proposed project and would be less than significant with mitigation.

Utilities and Service Systems

Construction and operation of the No Bioenergy Facility Alternative is expected to result in similar but reduced impacts related to utilities and service systems compared to the proposed project due to the removal of Site B and the bioenergy facility. Specifically, the No Bioenergy Facility Alternative is expected to require 2.93 fewer AFY of water compared to the proposed project through the elimination of the bioenergy facility. Since the number of temporary and full-time employees is expected to be reduced under the No Bioenergy Facility Alternative, wastewater generated during construction and operation is expected to be reduced compared to the proposed project and a new septic system would not be required. Therefore, Mitigation Measure MM 4.17-1 (BEF), provided in Section 4.17, *Utilities and Service Systems*, of this EIR, would not be required for the No Bioenergy Facility Alternative.

Proposed ground-disturbing activities required for construction of the No Bioenergy Facility Alternative would modify the existing drainage pattern of the project area. All stormwater would be collected and controlled on-site through development of the proposed retention pond. Mitigation Measure MM 4.17-2 (COM) requires the project proponent modify the existing WDRs for the landfill or obtain a new WDR, as required by Central Valley RWQCB. The No Bioenergy Facility Alternative must also comply with the requirements of the State's General Permit under the NPDES program; the permit's requirements include preparation of a SWPPP. Through prescribing BMPs, the objective of the SWPPP is to reduce or eliminate sediment or other pollutants from entering stormwater runoff. The SWPPP shall identify the precise implementation of BMPs. Implementation of the BMPs outlined in the SWPPP would avoid and/or minimize potential impacts such as erosion, sedimentation, and runoff that could result from construction of the No Bioenergy Facility Alternative. With implementation of Mitigation Measure MM 4.17-2 (COM), potential impacts related to the construction of new or the expansion of existing stormwater drainage facilities would be less than significant with regard to the No Bioenergy Facility Alternative.

The No Bioenergy Facility Alternative is expected to generate less solid waste during construction and operation due to the elimination of the bioenergy facility. Impacts related to solid waste are expected to be similar but reduced compared to the proposed project. Operation of the No Bioenergy Facility would not generate 20 tons per day (TPD) of biochar, 2 TPD of feedstock rejects, or 1.5 TPD of flue gas desulfurization (FGD) filter cake. Construction and

operation of the No Bioenergy Facility Alternative would not 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; however, Mitigation Measure MM 4.17-3 (COM, BEF) has been identified to require that the project proponent designate an on-site recycling coordinator to facilitate recycling efforts to further reduce solid waste generated by the facility. Further, Mitigation Measure MM 4.17-4 (COM) has been identified to require adherence to the applicable payment provisions and reporting procedures to ensure that project demand does not exceed the existing capacity of solid waste facilities. With implementation of Mitigation Measures MM 4.17-3 (COM, BEF), and MM 4.17-4 (COM), impacts would be less than significant.

Potential environmental impacts of electrical, gas, and telecommunication connections associated with the No Bioenergy Facility Alternative would be reduced compared to the proposed project since it would not require interconnection, a generator building, substation building, overhead powerline, natural gas line, metering yard, or utility building.

Wildfire

Site A is not classified as being within a high FHSZ, and the No Bioenergy Facility Alternative is not anticipated to physically impede the existing emergency response plans, emergency vehicle access, or personnel access to Site A. In addition, Site A is located in a rural, sparsely developed area with limited population. Site A is not located along an identified emergency evacuation route and is not identified in any adopted emergency evacuation plan. Also, in compliance with applicable California Fire Code and CBC requirements, construction managers and personnel would be trained in fire prevention and emergency response. Fire suppression equipment specific to construction would be maintained on-site. Additionally, construction would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. Therefore, the No Bioenergy Facility Alternative would not conflict with the implementation of, or physical interference with, an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant.

Construction and operation of the No Bioenergy Facility Alternative would not result in the removal of on-site vegetation, but would result in reduced ground disturbance compared to the proposed project. Vehicles and equipment would be limited to existing access roads and disturbed areas that are denuded of vegetation due to the existing land uses on-site and in immediate surrounding areas. Additionally, the proposed land use would be similar in nature to the existing use of the site and would not result in a material increase in fire risk compared to existing conditions. Similarly, the proposed modification to the hours of operation and waste streams would not result in a change in fire risk at the site. The risk of wildfire is very low, and the No Bioenergy Facility Alternative would not, due to slope, prevailing winds, or other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Impacts would be less than significant.

In addition, construction and operational impacts would be further reduced with implementation of Mitigation Measure MM 4.8-5 (COM, BEF), provided in Section 4.8, *Hazards and Hazardous Materials*, of this EIR. The No Bioenergy Facility Alternative is not anticipated to expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire due to slope, prevailing winds, and other factors during construction. Impacts would be less than significant.

Mitigation Measure MM 4.8-6 (COM, BEF, LDF) would be implemented to ensure that a Fire Safety Plan is prepared that contains notification procedures and emergency fire precautions consistent with the 2016 California Fire Code and Kern County Fire Code for use during construction and operation. Therefore, impacts would be less than significant with mitigation.

Comparison of Impacts

Overall, the No Bioenergy Facility Alternative would result in similar but reduced impacts for all issue areas compared to the proposed project. The No Bioenergy Facility Alternative would reduce the extent of ground disturbance; use of construction equipment, water, and wastewater; and number of employees required for construction and operation due to the elimination of the bioenergy facility. Additionally, during operation, the reduced footprint is expected to require fewer hauling trips, require reduced operation of construction equipment, generate fewer emissions, require less water, and generate less wastewater.

The impacts from implementing the No Bioenergy Facility Alternative would be similar to the proposed project but of a lesser intensity based on the reduced acreage for operations, specifically related to air quality, cultural resources, geology and soils, GHG, hazards and hazardous materials, hydrology and water quality, land use, public services, transportation and traffic, tribal cultural resources, and utilities and service systems. The No Bioenergy Facility Alternative further incorporates mitigation measures recommended in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, as discussed in the individual resource sections above. All significant and unavoidable impacts identified for the proposed project would remain significant and unavoidable under the No Bioenergy Facility Alternative.

Relationship to Project Objectives

The No Bioenergy Facility Alternative would achieve all of the project objectives listed above in Section 6.2, *Project Objectives*, that pertain to allowing new waste streams, modifying hours of operation, and composting; however, it would not achieve any objectives related to the installation of a bioenergy facility to produce renewable energy and would not create the same number of new job opportunities during construction and operation as the proposed project.

6.8 Environmentally Superior Alternative

As presented in the comparative analysis above, and as shown in **Table 6-2**, *Comparison of Alternatives*, there are a number of factors in selecting the Environmentally Superior Alternative. An EIR must identify the Environmentally Superior Alternative to the project. The No Project Alternative (Alternative A) would be environmentally superior to the proposed

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

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

Because the No Project Alternative cannot be the Environmentally Superior Alternative under CEQA, the Environmentally Superior Alternative is considered to be the Reduced Footprint Alternative (Alternative B). This alternative would reduce the severity of impacts for all issue areas while continuing to meet all project objectives. The Reduced Footprint Alternative would reduce the emissions of criteria air pollutants and the overall extent of habitat loss, although project-level and cumulative impacts related to air quality and cumulative impacts related to biological resources would remain significant and unavoidable. Although this alternative would generally meet all of the project objectives identified in Section 6.2, *Project Objectives*, and would result in reduced impacts compared to the proposed project, it is also important to note that it would result in a reduced rate of diversion of compostable materials, reduced production of compost, and reduced offset of GHGs compared to the proposed project. Nonetheless, because this alternative reduces impacts while also meeting all of the project objectives, compared to the No Bioenergy Facility Alternative, which would reduce potential impacts to a similar degree without meeting all project objectives, the Reduced Footprint Alternative is considered the Environmentally Superior Alternative.

Chapter 7

Response to Comments

This chapter is being reserved for, and will be included with, the Final EIR.

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Organizations and Persons Consulted

8.1 Federal

United States Bureau of Land Management (Caliente/Bakersfield)

United States Department of Agriculture, Natural Resources Conservation Service

United States Environmental Protection Agency Region IX Office

United States Fish and Wildlife Service, Division of Ecological Services

8.2 State

Air Resources Board

California Energy Commission

California Highway Patrol, Planning & Analysis Division

California Regional Water Quality Control Board, Central Valley Region

Department of Conservation, Director's Office

Department of Conservation, Division of Oil and Gas

Department of Conservation, Division of Recycling

Department of Fish and Wildlife

Department of Food and Agriculture

Department of Resources, Recycling and Recovery

Department of Transportation District 06

Integrated Waste Management Department

Native American Heritage Commission

Public Utilities Commission, Energy Division

State Clearinghouse

State Water Resources Control Board, Division of Drinking Water

8.3 Regional and Local

Kern County Public Health Services Department, Environmental Health Division

Kern County Fire Department

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

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

Pacific Gas and Electric Company

San Joaquin Valley Air Pollution Control District

Southern San Joaquin Valley Information Center

Berrenda Mesa Water Storage District

Buena Vista Water Storage District

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Donna Bodine – Surface Water and CEQA Specialist

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Chapter 10

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Chapter 11

Acronyms and Abbreviations

µg/m ³	Micrograms Per Cubic Meter
µPa	Micropascals
°F	Degrees Fahrenheit
A	Exclusive Agriculture (Zoning District)
AAQA	Ambient Air Quality Analysis
AB	Assembly Bill
ACBM	Asbestos Containing Building Material
ACC	Advanced Clean Cars
ACE	Affordable Clean Energy
ADC	Alternative Daily Cover
ADT	Average Daily Trips
AEA	Additional Environmental Analysis
AEC	Advanced Environmental Concepts, Inc.
AF	Acre-Feet
AFY	Acre-Feet Per Year
ALUCP	Airport Land Use Compatibility Plan
amsl	Above Mean Sea Level
AP-42	USEPA's Compilation of Air Pollutant Emission Factors
APCD	Air Pollution Control District
APN	Assessor's Parcel Number
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ASCE	American Society of Civil Engineers
ATC	Authority to Construct
BAT	Best Available Technology
BAU	Business-As-Usual
BCT	Best Conventional Pollution Control Technology
BEF	Bioenergy Facility
BGEPA	Bald and Golden Eagle Protection Act
BioMAT	Bioenergy Market Adjusting Tariff
BLM	Bureau of Land Management
BM	Berrenda Mesa
BMP	Best Management Practice
BMWD	Berrenda Mesa Water District
BNLL	Blunt-Nosed Leopard Lizard
BPS	Best Performance Standards
BVGSA	Buena Vista Groundwater Sustainability Agency

BVWSD	Buena Vista Water Storage District
C & D	Construction and Development
CAA	(Federal) Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAISO	California Independent System Operator
Cal ARP	California Accidental Release Prevention Program
CAL EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Cal/DHS	California Department of Health Services
Cal/NAGPRA	California Native American Graves Protection and Repatriation Act
Cal/OSHA	California Division of Occupational Safety and Health
CalEEMod	California Emissions Estimator Model
CalGEM	California Geologic Energy Management Division
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CA MUTCD	California Manual on Uniform Traffic Control Device
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CASGEM	California Statewide Groundwater Elevation Monitoring
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDC	Center For Disease Control and Prevention
CDFW	California Department of Fish and Wildlife
CDOC	California Department of Conservation
CDTFA	California Department of Tax and Fee Administration
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFC	Chlorofluorocarbon
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CGC	California Government Code
CGS	California Geological Survey
CH ₄	Methane
CHL	California Historic Landmark
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CI	<i>Coccidioides immitis</i>
CIP	Capital Improvement Plan
CIWMB	California Integrated Waste Management Board

cm	Centimeter
CMA	Congestion Management Agency
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
COEHHA	California Office of Environmental Health Hazard Assessment
COG	Council of Governments
COM	eASP Composting Facility
CoSWMP	County Solid Waste Management Plan
COVID-19	Coronavirus Disease 2019
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CRS	Community Rating System
CSUB	California State University, Bakersfield
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CVC	California Vehicle Code
CWA	Clean Water Act
D	Drilling Island
dB	Decibel
dBA	A-Weighted Decibel
DMC	Developer Mitigation Contract
DOF	Department of Finance
DOGGR	(California) Division of Oil, Gas and Geothermal Resources
DOSH	(California) Division of Occupational Safety and Health
DPM	Diesel Particulate Matter
DTSC	(California) Department of Toxic Substances Control
DVD	Digital Video Disc
DWR	(California) Department of Water Resources
eASP	extended Aerated Static Pile
EIA	Energy Information Administration
EIR	Environmental Impact Report
EMD	Emergency Medical Dispatcher
EMF	Electromagnetic Field
EMFAC	Emission Factors
EMS	Emergency Medical Services

EMT	Emergency Medical Technician
EO	Executive Order
ERC	Emissions Reduction Credit
ESA	(Federal) Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FGD	Flue Gas Desulfurization
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRM	Flood Insurance Rate Map
FMAP	Flood Mitigation Assistance Program
FMMP	Farmland Mapping and Monitoring Program
FOG	Fats, Oils, and Greases
FR	Federal Register
FRAP	Fire and Resource Assessment Program
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
GAMAQI	Guidance For Assessing and Mitigating Air Quality Impacts
gasifier	Oxygen-Starved Vessel
GF	Generating Facility
GHG	Greenhouse Gas
GIS	Geographic Information System
GJ	Gigajoules
GKR	Giant Kangaroo Rat
GPA	General Plan Amendment
GPD	Gallons Per Day
GPM	Gallons Per Minute
GPS	Global Position System
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWA	Government of Western Australia
GWP	Global Warming Potential
H ₂ S	Hydrogen Sulfide
HAP	Hazardous Air Pollutant
HCD	Housing and Community Development
HCP	Habitat Conservation Plan
HEPA	High-Efficiency Particulate Air
HFC	Hydrofluorocarbon
HHWE	Household Hazardous Waste Element
HMA	Hazard Mitigation Assistance
HMGP	Hazard Mitigation Grant Program

hp	Horsepower
HRA	Health Risk Assessment
HSC	(California) Health and Safety Code
HSWA	Hazardous and Solid Waste Act
HUC	Hydrologic Unit Code
HUD	Housing and Urban Development
HVAC	Heating, Ventilation, and Air Conditioning
Hz	Hertz
I-5	(U.S.) Interstate 5
in/sec	Inches Per Second
IPaC	Information for Planning and Consultation
IPCC	Intergovernmental Panel on Climate Change
IPMP	Integrated Pest Management Plan
IS	Initial Study
ISR	Indirect Source Review
IWMP	Integrated Waste Management Plan
KCFD	Kern County Fire Department
KCGP	Kern County General Plan
KCOES	Kern County Office of Emergency Services
KCPHSD	Kern County Public Health Services Department
KCPWD	Kern County Public Works Department
KCSO	Kern County Sheriff's Office
KCVFHCP	Kern County Valley Floor Habitat Conservation Plan
KCWA	Kern County Water Agency
Kern COG	Kern Council of Governments
KGA	Kern Groundwater Authority
kV	Kilovolt
KVA	Key Viewing Area
kW	Kilowatt
kWh	Kilowatt Hour
L ₅₀	Median Noise Level
Ldn	Day-Night Average Sound Level
LCFS	Low-Carbon Fuel Standard
LDF	Landfill Facility
LEA	Local Enforcement Agency
LED	Light-Emitting Diode
Leq	Equivalent Sound Pressure Level
LEV	Low Emission Vehicle
LF	Large Format
LOS	Level of Service
LPUD	Lamont Public Utility District
LRA	Local Responsibility Area

LTS	Less than Significant
LTSM	Less than Significant with Mitigation
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams Per Liter
MBTA	Migratory Bird Treaty Act
MCY	Million Cubic Yards
MICN	Mobile Intensive Care Nurse
MLD	Most Likely Descendant
mm	Millimeter
MM	Mitigation Measure
MMT	Million Metric Tons
MMTCO _{2e}	Million Metric Tons of Carbon Dioxide Equivalent
MTCO _{2e}	Metric Tons of Carbon Dioxide Equivalent
MND	Mitigated Negative Declaration
mpg	Miles Per Gallon
mph	Miles Per Hour
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zones
MSA	Metropolitan Statistical Area
MSDS	Material Safety Data Sheets
msl	Mean Sea Level
MT	Metric Tons
MTPY	Million Tons Per Year
MW	Megawatt
MWh	Megawatt Hour
N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	(Federal) Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NCDC	National Climatic Data Center
NCP	National Contingency Plan
ND	Negative Declaration
NDFE	Nondisposal Facility Element
NEHRP	National Earthquake Hazards Reduction Program
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NHTSA	(United States Department of Transportation) National Highway Traffic and Safety Administration
NHPA	National Historic Preservation Act
NI	No Impact
NIMS	National Incident Management System

NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Standards and Technology
NO	Nitric Oxide
NO ₂	Nitrogen Dioxide
NO ₃	Nitrate
NO _x	Nitrogen Oxides
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPPA	(California) Native Plant Protection Programs
NR	Natural Resource
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSF	National Science Foundation
NSR	New Source Review
NWI	National Wetlands Inventory
O ₃	Ozone
OEHHA	(California) Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHP	(California) Office of Historic Preservation
OIMP	Odor Impact Minimization Plan
OPR	(California) Office of Planning and Research
ORC	Organic Rankine Cycle
OSHA	Occupational Safety and Health Administration
Pb	Lead
PDM	Pre-Disaster Mitigation Assistance
PE	Petroleum Extraction
PFC	Perfluorocarbon
PG&E	Pacific Gas and Electric Company
PHEV	Plug-In Hybrid Electric Vehicles
PHI	Points of Historical Interest
PI	Plasticity Index
PM	Particulate Matter
PM ₁₀	Particulate Matter <10 Microns in Aerodynamic Diameter
PM _{2.5}	Particulate Matter <2.5 Microns in Aerodynamic Diameter
PPA	Power Purchase Agreement
PPE	Personal Protective Equipment
ppm	Parts Per Million
PPV	Peak Particle Velocity

PRC	(California) Public Resources Code
Project	Lost Hills Environmental Composting and Bioenergy Project
Project Proponent/Operator	Lost Hills Mining, LLC
PSD	Prevention of Significant Deterioration
PSI	Pounds Per Square Inch
PT	Permit to Operate
PVC	Polyvinyl Chloride
Qa	Quaternary Alluvium
RACT	Reasonably Available Control Technology
RCRA	Resource Conservation and Recovery Act
RCSI	Report of Compost Site Information
REL	Reference Exposure Level
RFS	Renewable Fuel Standard
RHNA	Regional Housing Needs Allocation
RHNAP	Regional Housing Needs Allocation Plan
RMS	Root Mean Square
ROG	Reactive Organic Gases
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCEDC	Southern California Earthquake Data Center
SCR	Selective Catalytic Reduction
SCS	Sustainable Communities Strategy
SDC	Seismic Design Category
SDG&E	San Diego Gas and Electric
SEMS	Standard Emergency Management System
SF ₆	Sulfur Hexafluoride
SGMA	Sustainable Groundwater Management Act
SHPO	State Historic Preservation Officer
SIL	Significant Impact Level
SIP	State Implementation Plan
SJAS	San Joaquin Antelope Squirrel
SJKF	San Joaquin Kit Fox
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District

SJVUAPCD	San Joaquin Valley Unified Air Pollution Control District
SLF	Sacred Lands File
SMARA	Surface Mining and Reclamation Act of 1975
SO	Sulfur Monoxide
SO ₂	Sulfur Dioxide
SO ₃	Sulfate
SO ₄	Sulfate
SO ₄ ⁻²	Sulfate
SO _x	Sulfur Oxides
SoCalGas	Southern California Gas Company
SPCC	Spill Prevention, Control, and Countermeasure
SR	State Route
SRA	State Responsibility Area
SRRE	Source Reduction and Recycling Element
SSC	(California) Species of Special Concern
SSJVIC	Southern San Joaquin Valley Information Center
STIP	State Transportation Improvement Program
SU	Significant and Unavoidable
SWANCC	Solid Waste Agency of Northern Cook County
SWCA	SWCA Environmental Consultants
SWFP	Solid Waste Facilities Permit
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
syngas	Synthetic Gas
TAC	Toxic Air Contaminant
TAZ	Traffic Analysis Zones
TCM	Transportation Control Measure
TDS	Total Dissolved Solids
TFV	Threshold Friction Velocity
TI	Traffic Index
TMDL	Total Maximum Daily Load
TO	Thermal Oxidizer
TPD	Tons Per Day
TPH-cc	Total Petroleum Hydrocarbons as Carbon Chain
TPY	Tons Per Year
TTAC	Transportation Technical Advisory Committee
UBC	Uniform Building Code
UNFCCC	United Nations Framework Convention on Climate Change
URF	Unit Risk Factor
US 101	U.S. Route 101
USCAE	United States Army Corps of Engineers

USC	United States Code
USDA	United States Department of Agriculture
USDOE	United States Department of Energy
USDOT	United States Department of Transportation
USEIA	United States Energy Information Administration
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
UWMP	Urban Water Management Plan
V/C	Volume To Capacity Ratio
VdB	Decibel Notation
VERA	Voluntary Emissions Reduction Agreement
VHFSZ	Very High Fire Hazard Severity Zone
VMT	Vehicle Miles Travelled
VOC	Volatile Organic Compounds
W	Watts
Wh	Watt-Hours
WDR	Waste Discharge Requirement
WDWA	Westside District Water Authority
WOTUS	Waters of the United States
WRCC	Western Regional Climate Center
WSA	Water Supply Assessment
WUI	Wildland-Urban Interface
ZEV	Zero Emission Vehicle